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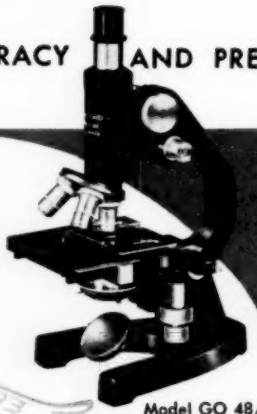

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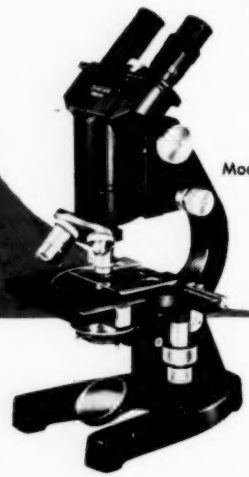

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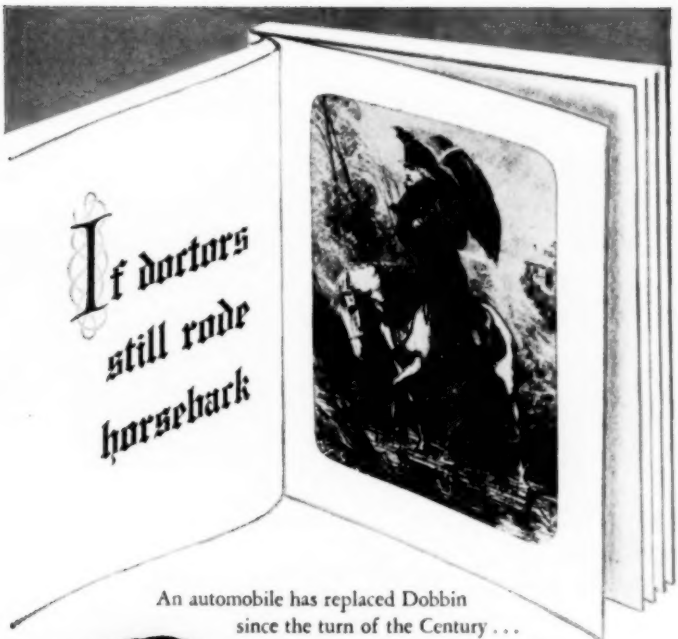

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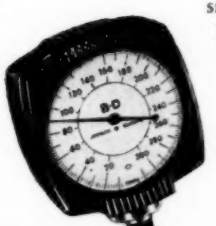

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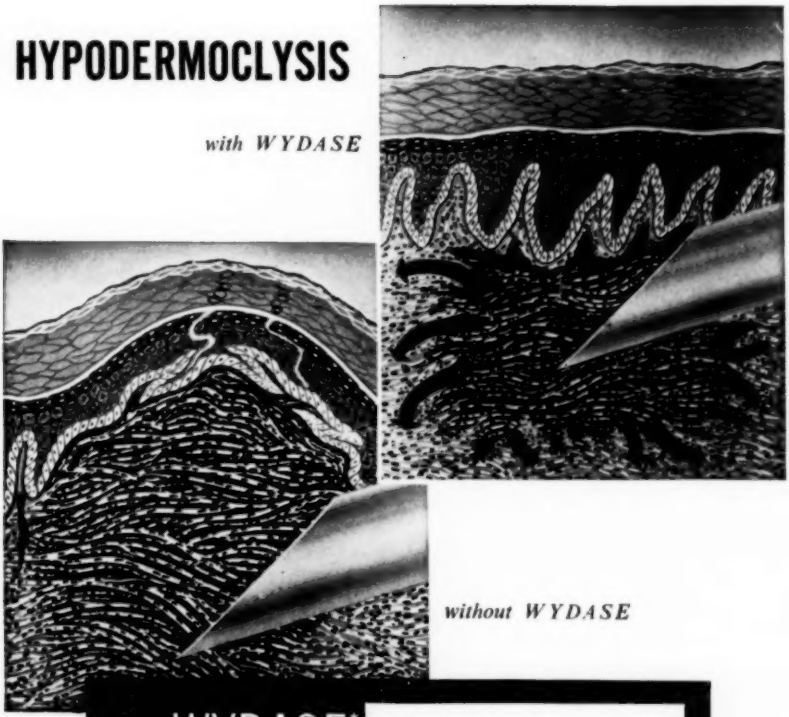

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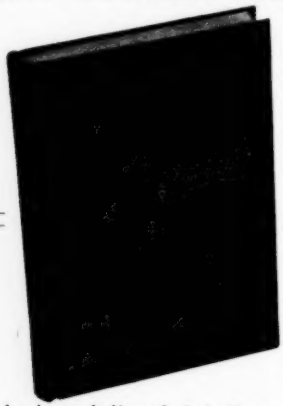

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Medical Education and Television

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The possibilities of television's application to medical practice, research, and teaching are almost limitless; it seems not a question of "will it come" but "how shall we use it." Nevertheless, television installations are costly and must be planned with care. This article attempts to give an over-all view of the picture today.

Part I. TV: A Primer on Principles

The great potential contribution of TV to the medical sciences must be washed out of a bewildering sludge of electronic terminology, color vs black-and-white, and Federal Communications Commission decisions. However fascinating the array of TV gadgets, today's medical educator may safely leave electronic complexities to his engineering colleagues and concentrate on communication . . . the communication of the science of medicine through the teaching of knowledge and skills, and the development of the art of medicine through deepening the personal maturity and widening the social awareness of the student.

This thumbnail sketch introduces the subject only in general terms. It accepts the working hypothesis that television (with other audiovisual aids) has a valuable contribution to make in the classroom, the clinic, and the laboratory; in teaching, research, and health education. Television can conquer space and time by many techniques. In the end, the practical application of television's ability to conquer space and time is limited only by the teacher's imagination, skill, and effort.

The pervasive current viewpoint that TV is either vaudeville or merely popular entertainment blurs the image of what TV may contribute to the students and faculty of a medical school. For the purposes of medical education it must be made clear that *there are many kinds of television.* Like the instruments in a surgeon's kit, each kind of TV has its uses and its dangers, its pros and cons. From the standpoint of TV systems, there are two principal kinds; but the two systems may be joined in various combinations (discussed later).

Broadcast TV

This is just what it says—broadcast. Almost all television seen today, i.e. black-and-white images picked up on home receivers, is broadcast into the air from towers. Network television simply pipelines TV images from one metropolis to the next over cables or by directional microwave. Once the

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image reaches the next city, the process is the same—it is hurled into the air, literally cast abroad.

For most purposes of medical education, a much more practicable method of TV communication is known as . . .

Closed Circuit TV

This form of "industrial" TV sends images over wires (called co-axial cables) between buildings, between the rooms within one building, or within one room. The best known example of closed circuit TV (the Smith, Kline and French—CBS demonstrations) is one in which a camera picks up an operation or clinic in one part of a hospital and sends the picture to an auditorium elsewhere in the same building. The type of closed circuit which uses cable connections between two or more buildings works best over comparatively short distances, up to about two miles. Even telephone lines can carry TV for short distances, but such lines require "boosters" at intervals in order to maintain the strength of the electric signal.

Another form of closed circuit sends microwaves from a transmitter on the roof of a hospital to a receiving tower on the roof of a building elsewhere in the same city; this beam is narrow, and is aimed precisely from sender to receiver much as a rifle bullet is aimed at a bull's-eye.

TV in Teaching, Research, and Medical Care

A General Statement—Examples of specific use are given later in the section "Some Applications of TV in Medical Education."

TEACHING: TV TEACHING AND THE FACULTY. The faculty members, as the source of the teaching programs, are the essential fabricators of any comprehensive plan for the use of TV in its five audience areas: medical students; practicing physicians; specialists; dentists, nurses and allied scientists; the lay public. TV can provide the faculty of a medical school with:

1. *A mechanism of interdepartmental cooperation.* A TV demonstration of thoracic surgery, for example, might call upon the departments of anatomy, physiology, pathology, anesthesiology and medicine for contributions, in order to deepen the meaning of what otherwise might be primarily a demonstration of surgical technique.

2. *An experimental field for pedagogic techniques.* There is general agreement that course boundaries tend to vanish in the clinical subjects. However, the problem remains of how to recall to the minds of clinically oriented students the basic science foundations of clinical practice, how to present the complexities of doctor-patient relationships and the contributions of other professions and of community agencies, and how to develop the civic as well as personal maturity demanded of the true physician.

3. *Aid in the solution of burdens of post-graduate instruction* (discussed later).

TV TEACHING FOR MEDICAL STUDENTS. The integration and correlation of courses within the school of medicine has become a kind of Holy Grail sought by most educators and found, if at all, by a rare few. It is precisely in this area of correlation that TV probably can make its greatest contribution by permitting the teacher to lead the student freely through time and space, and interchangeably from clinical to basic sciences, and even into the social sciences.

TV POST-GRADUATE TEACHING FOR PRACTICING PHYSICIANS AND SPECIALISTS. Faculty members fully recognize the obligation to engage in lectures and discussions with practicing physicians. But they deplore the time-consuming—even debilitating!—aspects of travelling frequently over many miles for two or three-hour meetings. TV would permit the burdened specialist to teach many practicing physicians without ever leaving the medical center. He would not only save a great deal of time and effort, but he would be able to call upon a wide range of ancillary, illustrative, and demonstrational materials which he can take with him to distant meetings only with the greatest difficulty.

Conversely, busy practitioners would not have to spend disproportionate amounts of their free time traveling to metropolitan centers to participate in discussions and lectures. One must hasten to add that TV, despite its quality of immediacy, cannot substitute for personal face-to-face contact.

In a nutshell, TV helps both specialist and family physician to save time by eliminating the space between them and the medical center.

TV TEACHING FOR DENTISTS, NURSES AND ALLIED SCIENTISTS. Today one hears frequently such terms as "the teamwork approach," and the "allied medical sciences." The cooperation between the professions symbolized by such terms can be given practical avenues of communication through TV in the same way that TV crosses departmental lines in the school of medicine. All planning for the use of TV in medical education will be incomplete unless the partners in the allied medical sciences are considered and involved early. Indeed, it is quite possible that dentistry may lead the way, as in the past with other advances.

TV TEACHING FOR THE LAY PUBLIC: HEALTH, SCIENCE, CIVIL DEFENSE. Many medical faculty members have already had experience with health education programs for commercial broadcasts over today's commonplace black-and white receiving systems. Such programs — almost always termed "shows with some significance"—have ranged in quality from superlative to soporific. Health education is not merely medical education diluted and given colloquial terminology; proper health education has requirements and techniques all its own. It seems inevitable that faculty members will be called on for endless years to come to participate in health education TV programs, such as the projected program of the New York County Medical Society. A TV unit in the medical school, or the university, can give much help to men who participate in public TV programs. Similarly, medicine will strongly support programs of adult education in science, such as the Johns Hopkins Science Review. The accomplishments of the medical sciences are good public relations to each university, and of consistently high interest to the adult public.

The near future will witness increasing demands upon medical school faculties and physicians for participation in teaching of medical civil defense methodology. TV channels will be an important route to meet these new teaching demands.

RESEARCH: TV AND ITS APPLICATIONS TO RESEARCH. The television system has an extraordinary range of capacities which lend themselves to the use of the astute investigator. The great

light sensitivity of the tubes means that fluorographic screens can be visualized in virtual darkness, that clinical material can be telecast without the inordinate and disturbing lighting required for motion pictures, that psychiatric patients can be studied and kinescoped without the necessity for obtrusive and expensive studio lighting. Certain television tubes are very small in size, and will become smaller; hence, wide applications are conceivable in all types of endoscopy. Special sensitivities of TV tubes lend themselves to "electronic stain" techniques with living cells by telemicroscopy. The characteristics of TV provide a frontier for the researcher. Experimentation will prove the special values of the medium.

MEDICAL CARE: TV AND ITS APPLICATIONS TO DIAGNOSIS AND TREATMENT.

1. *Diagnosis*—there will be many diagnostic applications of television. Telegastroscopy is now under development. Television-estimated blood counts have already been demonstrated. Telefluoroscopy may well prove a standard method for gastro-intestinal and cardiovascular diagnosis. Each day new uses are being explored.

2. *Therapy*—as with motion pictures, the television camera will surely develop applications in therapy, e.g. in rehabilitation (orthopedics, neurology, speech therapy), and in psychiatry.

Color TV and Monochrome TV

Part II of this report goes into detail on the uses of color TV and monochrome TV. It is pertinent only to say that black-and-white TV has much to offer medicine. However, color TV seems fated to carry the maximum load of television's role in medical education.

A recent Supreme Court decision has made possible the first step toward standardization of color TV. Such standardization will be most welcome, because it will permit the manufacture of color equipment—cameras, receivers, etc.—to be put on an assembly line basis, thereby forcing today's high "custom built" equipment costs down to comparatively inexpensive levels.

Color TV is no longer a laboratory toy. It is here today, it gives excellent pictures, and it can be used in a hundred-and-one ways other than the demonstration of surgical techniques with which it is commonly associated.

Part II. Facts, Figures and Examples

In so meteoric a field as television, authentic, detailed facts, figures and examples can come only from certain authoritative sources. Therefore, interviews were held with Dr. Allen B. DuMont, President of DuMont Laboratories; Dr. Peter Goldmark, Vice-President and Director of Research of the Columbia Broadcasting System; Mr. William L. Norvell, Sales Manager of the Vericon Industrial Television Division of Remington Rand, Inc.; Dr. Vladimir K. Zworykin, Vice-President and Technical Consultant of RCA Laboratories Division; and General Telford Taylor, former chief counsel for the Federal Communications Commission and counsel for the Joint Committee for Educational Television. Two visits to the Special Devices Center, U. S. Navy, provided background material on the critical evaluation of television and

motion pictures as media for group teaching. In addition, the testimony of the FCC television hearings was culled for information; technical and popular literature was studied; and there was consultation with architects, with television technicians, and with medical educators.

It is significant that the scientists who have brought television to reality, and who are constantly developing newer and more specialized equipment envision the earliest comprehensive use of TV in medicine. However, medicine itself must aggressively exploit television, in order to reduce the lag between TV research and classroom and laboratory utilization.

The Development of Television in Medicine

Problems in educational television must be solved by experimentation. One or two medical centers will not be able to discover all the answers to all the questions. Equipment must be made available to those medical educators who are willing to explore the medium. Experiments must be defined and coordinated, so that evaluation of positive and negative results can have acceptable validity to the profession. Yet whatever the local experimental situation, the three principal elements appear to be an enthusiastic medical faculty, audiovisually trained medical personnel with audiovisual production facilities, and adequate TV equipment.

The development of TV in medicine falls into four categories: instructional TV; pure and applied research TV; workaday TV for diagnosis and therapy; and general public broadcast. In medicine, all four categories have importance; general broadcast certainly has least significance at this time.

The Potentialities of Television: The Plus Factors

The plus factors of TV are practically synonomous with the visual and auditory properties of a medium designed to effectively reach groups rather than individuals.

1. *TV has unlimited visual capacities.* Anything that can be seen, either with the naked eye or via optical instruments, can be shown by TV. Because of selectivity, magnification, color (if used), inherent immediacy and continuity of demonstration, phenomena may potentially be seen and understood better by television. Sound, when used properly, greatly augments the visual images.

2. *TV has a wide range of uses.* It can be used for general broadcasting, as a closed-circuit network, or as a simple microscopy unit. It can be used as a small personal instrument (i.e. the telegastroscope of tomorrow), or as a visualizer of remote phenomena, even those dangerous to life (i.e. a TV camera mounted in an experimental rocket or looking into an atomic pile). It is available for stereoscopic visualization in color and monochrome. The vidicon tube, which is the size of a test tube, can be made even smaller; only problems of lighting prevent its use now for applications in endoscopy. The new "storage" receiving tube can retain a particular image in its "memory" for hours, for study. With television one can visualize the electron microscopic image simultaneously with its production, as well as upon the photographic plate and motion picture emulsion.

Television can visualize a microscopic preparation using ultra-violet light; by the selection of UV wavebands and "assigning" colors to each, it is possible to visualize living organisms and tissues "electronically stained." The TV tube is far more sensitive to light than photographic chemical materials; the light sources for microscopy need not be bright nor hot to achieve extraordinary, heretofore impossible TV microprojection. Television with an integrating circuit can be used to give immediate particle counts; it can plot the sizes of the particles, and therefore TV can be developed for routine or research applications in hematology cytology, and biochemistry, e.g. red cell counts. TV camera observation of the fluoroscopic screen permits an infinite number of persons to observe a magnified and intensified image, far from the darkness of the fluoroscopic room. By kinescope recording, any program can be photographed automatically, and is available for reshowing and study at any time thereafter, with editing and insertions of other footage if this appears to be desirable; such recordings can be duplicated and sent anywhere in the world.

These are just beginnings. The electronic eye of television will open new worlds not now suspected.

3. *TV has high educational potentials.* When television is compared with other media, its educational merits are apparent. Radio depends entirely upon the audio component, i.e. verbal description and sound effects; TV can own the same words and effects, in addition to the pictorial effects. The lecture suffers from similar limitations, but adds the personality of the lecturer; TV can present the lecturer more familiarly than if the learner were in the fourth row front. Books and literature lack the presence of the personality and they lack immediacy; words can also be cast from the TV screen as one part of a message. Illustrations lack motion and both third and fourth dimensions; still images can be made mobile by the TV camera. Models have three dimensions, are palpable, but lack motion; the TV camera can create motion in a model.

4. *TV combines all other teaching media.* TV replaces almost nothing in teaching. Rather it employs all existing personnel, audiovisual materials, clinical cases, and laboratory materials. It can amplify and intensify all types of group presentations. It can serve as a distribution and utilization channel for many kinds of information and audiovisual materials which are mechanically difficult to present otherwise. And it possesses the element of immediacy which the motion picture lacks. TV does not negate any previous audiovisual teaching efforts. Instead, it draws upon all the experiences gained in the past. Television is an additive teaching dimension.

5. *TV utilization is simple compared with TV technology.* Although the electrical and electronic equipment and installations of TV are complex, utilization of the medium is relatively simple by contrast. Once the proper type and quantity of equipment are available, trained medical audiovisual personnel can readily develop patterns of use applicable to medicine. The problems today are educational and presentational, not technical.

6. *TV has its own disciplines of audiovisual language.* Medicine is

highly visual in substance. The task of learning the special time-space disciplines of teaching by TV will not always be easy, but it will be rewarding. The teacher who uses slides and the blackboard will find television a great fortification of his skills as a teacher. For the medium permits complete *visual* organization of the materials to be presented. If kinescoped, the teacher can have a permanent record of his performance to study, so that constant teaching improvement may occur. Materials from many sources can be integrated into the presentation. The need for extensive planning in advance tends toward better teaching habits and practices. The phenomena of pace, of presentation, of emphases, of proper staging as evolved under TV planning and rehearsal will also tend toward sounder and more objective evaluations of good teaching. The discipline of TV is the discipline of visual language.

Television may well develop a new methodology of education in every area where it is found to be applicable. The medium is so comprehensive in potential scope that it is sure to create its own environment and apostles.

The Obstacles or Negative Factors of Television

Certain factors in TV tend to limit the free and immediate use of the medium in medical education. Many of the factors will diminish in importance in the future, when medicine will have been conditioned for such a comprehensive and relatively expensive medium. The negative factors are high costs, scarcity of specialized personnel, lack of space in the crowded medical centers, inadequate auxiliary materials, and intellectual conservatism.

1. *TV costs money.* The costs are for equipment, installation, operation and maintenance of the equipment, salaries for medical TV curriculum personnel, and costs of materials for integrated teaching.

2. *TV requires new people* and conversion of others to roles which are important for full exploration of the medium. The need is for medical TV production personnel, operations and maintenance men, and faculty members who are keenly interested in exploring TV.

3. *TV requires space.* In most schools, space is a premium commodity. Space needs are not too great, since much of TV will employ rooms routinely employed for use by the hospital. However, space is required for actual telecasting, for production of accessory audiovisual materials, and for storage of production materials and equipment. The amount of space required will be determined by the type of installation (discussed below).

4. *TV requires many auxiliary materials.* In addition to special TV accessories, audiovisual materials (e.g. films, slides, models, charts), laboratory materials, clinical materials, certain props, and kinescope recording materials will be required. The complexity and volume of these materials will vary with the scope of the TV program.

5. *TV asks for intellectual pioneering.* Intellectual and emotional conservatism are safeguards of good medicine. However, the willingness to consider the possible use of TV throughout the entire medical curriculum is an essential attitude for all who face medical education and TV.

6. *Medical TV requires privacy.* So much of medical teaching involves patients whose privacy must be protected, that special consideration must be given to ways of insuring security from invasion of that privacy. As soon as general telecast throws images out into the air for pickup by physicians, dentists, and nurses in their post-graduate work, special devices will be required. Zenith Company's Phonevision with its scrambled image might be modified for medicine. The Skiatron punched card system of image-scrambling presents another possible solution. Still another solution, if medicine could use twelve to fifteen hours daily telecast for all its many purposes, is to apply for and receive a special channel assigned to medical interests by the FCC.

Some Miscellaneous Aspects of Television

Certain of the assets and liabilities of TV have been indicated. Two more characteristics should be pointed out.

1. *TV does not replace teaching personnel.* It can lighten the burdens of the teacher *after* he has learned to use TV well and has developed a backlog of materials. It also gives him an opportunity to cover more material in better fashion because of the discipline of the medium.

2. *TV can create larger and better faculties.* Each medical faculty has its share of experts. But within his specialty each faculty member teaches many subjects in which he scarcely can claim expertness. By careful programming in metropolitan medical centers, it is possible to call upon very many important investigators, each to present his small corner of expertness. Conversely, the student can now achieve the old German ideal of study under self-selected savants, not by travel and sojourn in different universities, but by having the medical savants come to him by TV. Not only will integrated city-wide programming create this possibility, but the kinescope and/or future national medical TV hookups will broaden the horizon to the entire United States and beyond.

Some Applications of TV in Medical Education

EXPERIENCE AND EXTRAPOLATION. The applications of TV are a function of the TV system in use, plus the skill of the medical teaching coordinator who plans and operates the TV curriculum. From the simplest system to the most complex one, simple specifications and examples are given, primarily to state the possibilities of TV planning as these can be visualized.

One Camera System—pickup in one room by camera with monitor; reception within same room or remotely; installation can be temporary, semi-permanent or permanent; color or black-and-white; some *examples* are given. (1) *Surgery*—gallery group in surgical amphitheatre sees an enlarged TV image of the operative field on screen above surgical team and table, while they also can witness the actual tableau of the operation. (2) *Laboratory*—microdissections, animal experiments, procedures in hematology, bacteriology, histology can be demonstrated to large groups. (3) *Radiology*—an observing group can visualize the fluoroscopy of a gastrointestinal procedure far from the fluoroscopic room; the TV camera enlarges and intensifies the image without light adaptation. (4)

Pathology—formal or informal study groups can observe a pathologist examining and interpreting slides while the audience visualizes the screen. (5) *Clinic*—demonstration of patients is carried out before a class of students. Fine and gross physical findings, along with auxiliary slides, x-rays and models, can be demonstrated via TV to all students simultaneously.

A one-camera system can do a great many things; it lacks only flexibility, resourcefulness, and speed of handling.

Two Camera and Three Camera Systems—pickup in one or several rooms with control panel and side-by-side monitors; reception within same room or at distant sites; installation usually portable and temporary, but can be permanent; color and/or black-and-white; examples: (1) Two cameras make possible continuous TV, with movement of one camera into a new position of new use while the first camera is fixed upon a field. Almost every example of the single camera system becomes more fluid and effective with multiple cameras; (2) Multiple cameras permit interconnections between *lab and classroom* for teaching correlated anatomy, biochemistry, physiology, microbiology, pathology, medicine, surgery, pediatrics, dermatology, obstetrics and gynecology, preventive medicine, neurology, radiology, etc.; (3) Interconnecting multiple cameras link the operating room with the classroom for teaching operative principles of surgery, surgical anatomy, basic anatomy, physiology and surgical pathology, for immediate pathological consultation and interpretation of frozen section biopsy specimens; (4) For correlation clinics, symposia, review sessions, interconnecting cameras can link *any number of locations* with *the classroom*, with the lab, operating room, clinic, ward, and projectors.

The Present Status of Color Television

All decisions of equipment and installation hinge upon legal and developmental uncertainties now surrounding color TV. Color TV is certainly here to stay! There are several systems which are practicable, available, and give excellent results. They may be purchased now, and they have a useful instrument life of twenty years or more. These systems are manufactured by leading manufacturers who also make black-and-white TV. Both color and monochrome systems can be used by medical institutions or for any educational purposes, even though they are sold as "industrial television systems." Since these systems are not broadcasting systems (even though they can be so used) they require no channels nor is the FCC involved. These are closed-circuit or "captive" TV systems.

1. *The Problem of Compatibility.* Any manufacturer can develop a color system and sell it freely as a closed-circuit system. The great color controversy today concerns which of the several color systems will be adopted for general broadcast. Any one of the present systems would function well in general broadcast use. The decisive features are those of compatibility and public demand.

A compatible color system will allow present owners of monochrome sets to receive monochrome images of color broadcasts without adapters. It is probable that, at some time in the

future, only color sets will be manufactured. But, until that time, it is felt by some that the present owners of monochrome sets must be protected, and that they should not now be compelled to purchase a color set because they receive no images at all without adaptation or conversion. There is economic logic to this line of reasoning. The decisions weigh heavily upon the Federal Communication Commissioners, who must determine what is in the public interest.

Compatibility can be described in terms of the number of lines which create the image, and the field scanning rate. The monochrome standard is 525 horizontal lines to the inch, with scanning rate 30 complete pictures per second, transmitted via a 6 megacycle channel. The RCA color system operates on this standard; therefore, in these respects it is compatible. The CBS color system is 405 horizontal lines, and is scanned at a rate of 144 fields per second or 24 complete pictures per second; therefore, it is not compatible with the present standard. Nor is the DuMont color system, which operates on the standard 525 lines and scans at the standard rate of 30 complete pictures per second; however, DuMont operates with a non-standard 18 megacycle channel. Public demand may ignore compatibility considerations.

It can be seen that the color controversy is not yet one that applies greatly in closed-circuit TV, but which has great reality in the broadcast field. Closed-circuit color TV in industry, merchandising, education and government need not conform with FCC standards to be useful and effective. However, compatibility is a factor to be contended with even in captive TV. Some form of compatibility is desirable for several reasons.

Although the CBS system has received the approval of the FCC, the controversy will continue for some time to come. The proponents of a compatible system have achieved a promise that the entire question of color television is still open for new developments. This leaves the door ajar for new developments and an improved "all-electronic" system which may ultimately receive final approval and become the "color standard." Whether the ultimate standard is CBS, RCA or some other, all the other systems will promptly wither on the vine and become obsolete as far as general broadcasting is concerned. This will not happen to the industrial color TV systems for some time thereafter. However, economics have a strangling effect which will eventually influence closed-circuit color TV. Those systems which have by then become non-standard will continue to be custom made and installed, even though prices may drop. The standard system will be mass produced; all the manufacturers will be making the same equipment both for broadcast transmission and reception, and for closed-circuit TV. Prices will drop markedly because of mass production and competition. The non-standard systems will not be able to compete, except in a few special applications. The institutions which have invested in the non-standard equipment will find themselves slowly converting to standard for the reasons listed above. Similarly, equipment maintenance of non-standard systems will be higher in relation to the standard, and may be compared to the ownership of an expensive foreign-made car.

Compatibility is desirable, not only because costs will become low but also because there will be great need and desire for interconnections among medical centers in metropolitan areas. If the color systems are heterogeneous, this interconnection will be impossible or will require costly duplication of equipment. It would be optimal for medical institutions to install homogeneous equipment, preferably of the future standard system.

2. *The Need for Color.* Do we need color? Yes, and no. Color is not always necessary or even desirable either in TV or in motion pictures. Color should be used where it is needed, and not for the sake of color alone.

Because the simplest demonstrations to stage in medicine are those in operative surgery, and because the surgeons have quickly grasped at the medium, an undue emphasis seems to have developed about the necessity for color. In surgery, color is important, but even here only certain aspects demand color. For example, the operative procedure itself requires color, as does the surgical pathology of the tissues; however, a technique of cast application, the application of traction, and fluoroscopy, may not require color for presentation. Color can and should be avoided in many situations for several reasons: a) Color equipment is more expensive than monochrome equipment; less equipment can be purchased for a given sum of money; it will always be more expensive; b) Monochrome is less expensive, more can be purchased for the same sum and more comprehensive use can be made of the additional equipment; c) Color introduces color lighting and production problems which may be time consuming, costly and unnecessary; d) Color can be intrusive and detract from the teaching points being made; e) Color will not always be present in certain materials, e.g. photomicrography of tissues; f) Auxiliary equipment is not always manufactured for color, e.g. lenses may be non-apochromatic; g) Monochrome equipment is the more compact and portable.

The total field of medicine and its many areas of special knowledge are broad enough to allow satisfactory coverage of many areas by monochrome TV. Judicious apportionment of color to monochrome equipment may result in the purchase and use of approximately twice as much equipment as for color alone. Monochrome equipment usually costs about one-half to a third the price of color equipment. For the many applications where monochrome is adequate, it is advisable to avoid color because of the added costs and the added problems which color creates. The higher cost of color equipment may be a crucial factor in many cases. Naturally it is advantageous if color and monochrome systems are compatible, so that the equipment can be used interchangeably.

3. *Advantage of Color TV:* a) Color TV gives a much truer representation of nature than black-and-white; b) Color gives a clarity to details which does not exist in monochrome; c) Color is a primary necessity in dermatology, pathology, surgery, obstetrics, etc.; d) Color gives an illusion of three dimensions, a pseudostereo effect; e) Color values can be altered infinitely, and colors can be changed freely during the television demonstration; this is impossible with color films, although if films are televised,

some change is possible; f) Color equipment is extremely simple to operate, and it is compact; g) Color TV can utilize existing colored audiovisual materials; technical developments will rapidly improve the quality of transmission.

Types of Installations and Costs

Costs quoted are current (June 1950), and are given here for purposes of crude calculation only. Precise prices must be obtained from the equipment companies.

Industrial TV equipment is simple to operate, gives excellent service, and is inexpensive when compared with general broadcast equipment.

Closed circuit TV installation falls into three categories:

1. *No installation.* Here the TV system is kept mobile and portable, to be moved in and out of any building or room as use requires. Power outlets must be adequate wherever the portable equipment is used. Cost of power outlets is negligible. The Smith, Kline & French convention demonstrations are an example of this category.

2. *Semi-permanent installation.* Here the system is frequently used in several locations. To facilitate easy setting up, coaxial cables, power outlets and electrical outlets are installed as part of construction. The equipment can then be wheeled in, connected, and reception is possible in another room or building without cables writhing through halls and rooms. Cost of installation may be from $1,000 up to $20,000, determined by the scope of the program, geography of the key locations, and other factors.

3. *Permanent installation.* Here the system is used frequently in a suite of rooms planned for TV. The institution has another portable camera system as an alternate, and can afford to install a system permanently in the operating room, clinic, laboratory or classroom. The cables are incorporated in conduits within building walls, and a closed network is available for reception with a minimum of confusion and intrusiveness. Cost of installation may be $5,000 up to $50,000.

Permanent installation is most desirable because: 1) TV programming and utilization are planned in detail beforehand; 2) Construction and design of quarters are engineered for maximum effectiveness; 3) Permanence of utilization in specific situations stimulates experimentation and evaluation; 4) The medium is non-intrusive in the teaching situation and is part of the environment; 5) Installation costs are low during new construction, more costly for conversion and remodelling; 6) Surgical asepsis can be maintained by avoiding extra cables and lights.

Semi-permanent installation is extremely serviceable because: 1) It has many of the advantages of the permanent installation; 2) It also incorporates a planned system of usage; 3) It is less expensive than the permanent installation. This is true because only the wiring (conduits and cables) is incorporated in the construction of the building. The cameras and receivers remain mobile, to perform multiple duties in many situations in various locations.

No installation is practicable and serviceable because: 1) It is the most mobile TV system, and can be used wherever cables can be temporarily strung; 2) It is most desirable if TV is not used intensively and often; 3) It is the least expensive "installation."

It is unwise to proceed categorically to install wiring without previous knowledge of and decision upon the type of system to be installed. There are sufficient differences in the wiring requirements of the various systems to preclude success of blind installations. There are no universal types of conduits and outlets for TV. Standardization has not yet arrived in this phase of the field. The installation of new types of construction units and panels which can accommodate later installations of conduits and pipe systems are the best type of blind preparation for TV.

Basic Equipment and Its Cost

Five industrial or educational television systems are available, along with several variations of these (e.g. stereo and back-pack portable). The equipment is usually sold as complete camera units which are called "basic systems" or "basic chains." A system or chain includes a camera, 25 to 50 feet of cable, a monitor, a control mixer, and a sync generator. Some systems include camera lenses. Three systems appear to be important to the TV planner, and to the medical educator and administrator.

1. *Remington Rand (CBS)*
   a. VERICON—Monochrome
   b. VERICOLOR—CBS color system.
2. *RCA Industrial Television*
   a. EQUIPMENT MODEL ITV-5. This is monochrome equipment only.
   b. STEREO SYSTEM—Monochrome.
   c. PORTABLE TRANSMITTER — camera and transmitter.
3. *Dumont*
   a. IMAGE ORTHICON CAMERA CHAIN—Model TA-124-E—Monochrome.
   b. INDUSTRIAL COLOR TELEVISION Model TA-164-A.
   c. STEREO SYSTEM — Monochrome or color.

The CBS-Remington Rand Systems

VERICON BASIC SYSTEM—one camera chain, monochrome, $9,500

VERICOLOR BASIC SYSTEM—one camera chain, color, $24,800

VERICOLOR BASIC SYSTEM — with two cameras, $34,800

VERICOLOR BASIC SYSTEM — with three cameras, approximately $45,000

If sheer cost is not prohibitive, it might be optimal to purchase up to three independent basic color camera systems for $75,000. They can be operated separately anywhere, but are combined easily for special purposes. A spare is always at hand for emergency situations.

RECEIVERS with 12½" tubes cost $2,200 each (rotating disc type).

RECEIVERS with 17" tube cost $3,000 (revolving drum type).

The 17" tube receiver, placed high, will allow 50 persons to see well. A hookup in series is best for receivers. "Large-screen" projected reception is not absolutely necessary, although it will have wide application when developed.

BOOSTERS cost $100 to $5,000 for installation, and are used to amplify or boost signals to remote points of reception.

IMAGE ORTHICON TUBES each cost $1,300. This tube does deteriorate with use, is guaranteed 250 hours, and usually lasts two to four times longer than guaranteed.

Vericolor gives excellent color reception. Colors can be controlled at will from the monitor.

Vericon and Vericolor are very compact systems and extremely simple to use. One person operates one camera and can control the camera remotely, whether it is on a tripod or dolly.

A dolly or moving stand is available at $2,000. This allows the camera to be suspended over the demonstration field. All camera movements and adjustments are controlled at the monitor position.

Several monitors may be placed together, so that fades and dissolves are possible between camera changes in a two or more camera combination. Extra monitors cost from $2,200 for 12½" tube.

Color kinescope recording is possible directly from the TV receiver screen. The film may be used later, either as a film or shown over TV. Experiments are under way to introduce "color crispening."

Attachments are available for special use in microscopy, telefluoroscopy and motion picture projection.

Personnel who will operate equipment are presently trained by Remington Rand at no extra charge.

For permanent mounting of camera in the operating-room, a ceiling height of 10 ft. is required.

At relatively high cost, an inductive field audio system is available. It obviates the need for wires to and from microphones and earphones of personnel appearing on-screen. It is ideal for surgical applications. It requires a ceiling "loop" installation and an individual loop placed in the cap.

RCA Industrial Television

EQUIPMENT MODEL ITV-5—basic chain (monochrome) costs $5,500, less lens and tripod. Receiver prices are available.

This is the most compact system available and the least expensive. The camera is the same size as an amateur 16mm camera, and uses the same lenses.

Additional receivers are available and they are much cheaper than color receivers. They are "standard" units and are manufactured in large quantities.

The equipment is extremely portable and light. It is ideal for microscopy, fluoroscopy and demonstrations. It should be considered where color is not needed.

This system employs the small vidicon tube. All others employ the larger image orthicon tube. A Vidicon tube is 1" x 6" and costs approximately $500 to replace. It allows compact camera construction.

Personnel are trained in the use of equipment by RCA.

RCA STEREO TV (monochrome)—Price and details available. This equipment is excellent for special applications requiring stereo use. Viewing is by polaroid glasses or special screens.

RCA PORTABLE TRANSMITTER (monochrome)—Price available. This unit is a camera and back-pack transmitter. Its use is designed for field work within range of one mile. It is valuable for civil defense, military and industrial field work. The unit is compatible with standard receivers and broadcast equipment.

DuMont Industrial Color TV

MODEL TA-164-A—$19,985 with 7" monitor; Deluxe 12½" screen color monitor $1,750. This equipment operates on an "optical color" principle similar to the CBS system, with differences in channel width, lines per inch and scanning rate. Receivers operate by rotating disc in 7" to 12½" sizes, and by revolving drum in 17" to 19" sizes. Design of equipment

components is "commercial" in type, and is not "styled" in the manner of Vericolor.

Claims made for this color equipment are: less flicker, higher definition, and better and truer color because of broadcast wave length channel.

DUMONT STEREO TV—prices available. This equipment is available either in monochrome or color. It operates on a principle similar to the RCA stereo principle. Viewing either by special screens or polaroid glasses. There are applications wherever depth perception is required.

Special Equipment for Installation, Its Cost

The special units which may be a part of an intramural "network" require special consideration. As a group, special units are expensive installations, but also give TV a great flexibility and effectiveness.

1. *Television projector for motion pictures.* This projector is a specially constructed unit which is synchronized with the scanning rate of the system. It projects the film image onto the face of the image orthicon tube for transmission to all the receivers in use on the network. In this way it utilizes film and serves the purposes of an auditorium projector, but with far greater flexibility. It facilitates classroom integrated use of films. Cost about $3,000 upward.

2. *Television projectors for slides: 2" x 2" and 3¼" x 4".* These are standard slide projectors, adapted for this special TV use. It is possible to use existing slides (monochrome and color) in the same manner as film by projection onto the face of the image orthicon tube. Cost about $250.

3. *Kinescope recording camera.* This camera photographs the entire television program, as it is seen and heard by the audience, i.e. both video and audio. After development, this recording may be utilized and shipped either as a film or as a packaged telecast. Cost about $10,000 upwards. Audio equipment leased.

4. *TV fluoroscopy unit.* This special camera unit is designed to scan a fluoroscopic screen under the usual conditions of deep gloom. Specially magnified and intensified images are produced. Cost not yet determined.

5. *TV microscopy units.* Several camera units may be needed, for observation of microscopic sections and living micro-organisms. Cost not determined.

6. *Special Lighting.* There are situations where special lighting is required for specific reasons. Where possible, these should be permanently installed to facilitate programming. TV can operate in normal bright room light and very powerful lights are unnecessary. However, for color TV, lights of a proper Kelvin temperature are required.

7. *Control room or switchboard.* The special installations listed above, and many others, indicate the usefulness, even necessity, for a control room which houses the network switchboard, projectors, kinescope recorder, etc. A comprehensive network requires a control room with console; simpler networks can be handled from a switchboard alone; simple demonstrations require nothing more than the monitor of the basic camera chain. The special consoles are custom built, and costly.

8. *Large screen projected reception.* Classroom utilization of TV may be heightened when large screen projected TV images can magnify the 17" or 19" image of the standard set. RCA has developed a large (12' x 16') theatrical projection image. CBS has plans to develop a 3' x 4' color projection image if it appears desirable. Costs are unknown.

Part III. A Pattern for Action

The public demonstration phase of medical TV is over. TV now must begin to serve serious pedagogic goals. The conceptual and technical skills are available to define those goals and to begin to achieve them.

Key Questions for the Medical Educator

There is no master plan for medical TV. Rather each medical college should ask itself the following serious questions:

1. How soon will the high initial cost of equipment and installation be amortized by the improved medical teaching, the medical research and the medical care services which can be derived from an effective use of TV?

2. By what simple method will the practitioners of the area be able to pay for their post-graduate television programs, to aid this amortization?

3. By what means can we survey

the special assets of our medical school, and work out with the faculty a sound program of development which considers local human resources, physical facilities, and costs?

4. What intramural organizational structure can best and least expensively develop television in the interests of the entire faculty?

5. What are the qualifications of persons able to operate a functional medical television service within the needs of the medical curriculum?

6. Should there not be a TV liaison committee working with the university, with the local medical societies, with the general educational and commercial TV interests, in order to assure the medical faculty of its proper community role in medical public relations and information? How should such a liaison committee work with the other medical TV experimenters elsewhere in the nation?

7. Where can funds best be raised, from old or new sources interested in medicine, in communication, or in education?

8. Shall we wait for TV standardization and compatibility before initiating our school plan? What may be done before "final" FCC decisions and the technical developments which subtend those decisions?

A Basis for a Working Program

When these questions have been answered, a unique working program of medical television will have been formulated for each school. It will probably be formulated in evolutionary growth phases, perhaps of four stages. Phase I will comprise serious exploration of the use of TV in the medical school curriculum. Phase II will center about the post-graduate continuing education of practitioners. Phase III, active and collaborative extensions of the program into the allied professions of dentistry, nursing, veterinary medicine et al., will develop as speedily as local resources and demands permit. Phase IV will be participation in scientific and health education for the public; such participation will involve both the commercial and educational TV interests.

Personnel for TV Operations

Of necessity, responsibility for development of any important working plan will early be focused in a full-time *person.* That person should be thoroughly oriented in the three-fold skills and knowledge of medicine, medical education, and visual communication. Once given authority and funds, he will quickly develop the staff required for close collaboration with the medical faculty.

Summary

Each medical school requires a TV plan and time schedule, a person, funds, and initiative to make a beginning.

Medical Schools and Civil Defense

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In the event of an all-out air attack on a large American city, the medical school in or near it has a vast and important job. Despite the tremendous difficulties that will be involved in even maintaining normal service, teaching hospitals will have to expand their functions, and the staff of the school will be called upon for every conceivable kind of emergency service.

Modern warfare requires total mobilization of resources; personnel, material and financial, for its successful prosecution. The same is true of civil defense and especially medical defense. In any major city that is subject to an all-out air attack, the number of casualties produced will be so large that even with the maximum and most efficient use of all medical resources, there will still be marked deficiencies. It is appreciated that some depletion of the faculty must occur during total mobilization. Despite the shortages, the medical schools must plan to do their part in the medical defense effort.

There are several ways that the schools can contribute, and if plans have not already been made, they should be drawn up at once. Where planning involves the use of personnel, it is necessary to make assignments by name to specified duties. One of the most important functions of the schools will be the maximum possible expansion of the bed facilities of the teaching hospitals to accommodate casualties. The schools may also be called on to furnish doctors for temporary improvised hospitals and to provide personnel for the field medical services. Some of the nonmedical technical personnel may be required to reinforce other hospitals and to serve in the temporary improvised hospitals. The more extensive laboratory facilities of teaching institutions could, in part, be used in cooperating in the blood procurement program. In many instances, the schools could furnish technical advice. They are also in a position to cooperate with the Radiological Defense Division. Many faculty members from the nonclinical fields, as from the histology, chemistry, bacteriology, and clinical laboratories, as well as from the x-ray department, could be used to great advantage.

Expansion of teaching hospital facilities is of the utmost importance. One of the first provisions shall be for automatic evacuation of patients and this must be a two fold plan. All patients may have to be removed if the hospital itself is involved in the attack. If the hospital remains intact, convalescent patients should be moved automatically to make room for incoming casualties.

This can be accomplished in several ways. One method is that of delegating the responsibility and authority to the senior resident of the service, who will designate the patients to be moved out. Another, and possibly preferable alternative, is to grade all patients and keep the grading up to date. A suggested grading is that in which Grade A consists of ambulatory patients ready for discharge, who could walk out of the hospital and go to their homes or a refugee center. Grade B would include those ambulatory convalescent patients who need domiciliary care. Grade C represents the patients, ambulatory or not, who could be moved with safety but who would require considerable medical supervision. Grade D patients are those whose condition is such that moving would jeopardize their lives. Patients of Grades A, B and C would be evacuated; Grade D patients would remain in the hospital.

All Space Must Be Utilized

Plans must be made for the maximum utilization of all available space for incoming casualties, increasing the capacity of the hospital by at least 50 per cent and, in many cases, by a larger figure. Halls, classrooms, auditoria, solaria and lobbies can be used to augment the increased bed capacity of existing wards and rooms. Expansion will, for the most part, be in the form of folding canvas cots or mattresses or even a folded blanket placed upon the floor.

To care for the increased hospital load, consideration must be given to the supporting nonmedical services as well as to the professional services. Additional clerks and stenographers will be needed. Kitchens and laundries will have to expand their services. More nurses aides will be required. Janitorial services will be increased. It is probable that increased telephone operators will be required. Pharmacy service and central supply services will be greatly taxed.

Stockpiling is not desirable, for several reasons. Few budgets can support such action and even if all hospitals could stockpile, available supplies would soon be depleted. It is sound, however, to maintain stock levels of certain critical expendable items at a higher plane than is done now. Included in this category would be the more commonly used suture materials, certain anesthetic agents, selected antibiotics and biologicals, some types of surgical dressings and intravenous fluids.

For the most efficient function, the staff should be divided into teams for the admission of patients, for the treatment of shock, for the treatment of burns, for operating room duty, and for general service. Provision must be made for certain specialized surgical teams, such as maxillofacial, thoracic, orthopedic and neurosurgical. These special teams should be mobile, to be sent to hospitals needing such specialized skills. Of the greatest importance is the provision for an equitable number of the standard teams to assure efficient around-the-clock care. Some hospitals will need reinforcing of their staff. The additional bed space which has to be provided in temporary improvised hospitals must also be staffed. For these reasons it is necessary to avoid overstaffing, to make as many of the faculty as possible available for these other duties.

Plants Must Be Maintained

Maintenance of the hospital plant is a most important consideration. First comes the problem of maintenance with the hospital intact but with disrupted utility services. What is the source of water supply? Are storage tanks part of the hospital water system? If tanks are present, where are they located? Are local pumps used, and if so, what are their capacities in gallons per minute? What current do they use? Are any local water wells present on the hospital grounds or can they be developed? Water mains may be broken, cutting off the usual supply of water.

In the modern hospital, electrical energy is a necessity for lighting, pumps, elevators, x-ray equipment, laboratory equipment, ranges, bake ovens and, in some cases, sterilizers. Many automatic controls are dependent on electricity. What type of emergency lighting system is provided for the surgeries, delivery rooms? Where are these installations in the hospital? Many times, the operating rooms are located on upper floors. Power failure would stop elevator service. Can emergency power be developed?

Steam generating plants also present a problem. In some cities coal is used, fed to the boilers through stokers, powered by electric motors. Again there is the problem of electric power failure. Many cities have normally adequate supplies of gas, natural or manufactured, for fuel purposes. If the boilers are gas fed, is there a standby oil fuel system, in the event of broken gas mains? Fuel oil systems also require pumps, usually electrically driven.

Sewer lines may be disrupted and consideration must be given to this problem. In all our cities, the system is waterborne. Limitation or interdiction of water supply, even if sewers are open, can also complicate the problem.

Plans must be made for emergency, rapid repairs in the event of damage to the hospital. Window breakage is one of the outstanding problems. Plywood and plastic board can be used for rapid emergency repairs if they are available. The roof is another vulnerable point and this becomes especially important if there is rain or snow.

Even granting no physical damage and maintenance of normal utility services, the greatly increased use of facilities will result in a corresponding increase of breakdown rate. The obvious result is a marked upturn in the requirements for normal maintenance.

Personnel Must Be Budgeted

It has been stated that some of the personnel will be required for temporary improvised hospitals. This could apply to administrative as well as to professional and allied personnel. For planning purposes it has been considered advisable to set up tables of organization for temporary hospitals in blocks of 100 beds. It has been proposed that for 100 beds, 19 doctors would be required, for 200 beds, 32 doctors, for 300 beds, 47 doctors, 60 for 400 beds, and 73 for 500 beds. The largest possible multiple is preferable because of the economy of professional and administrative personnel, as well as the savings in transportation for purposes of supply and supporting services.

General duty nurses are provided according to the schedule of 14 per 100 beds, 26 for 200 beds, 38 for 300 beds, 50 for 400 and 62 for 500. Nurse anesthetists are planned on straight multiples of 2 per 100 beds.

It is improbable that any of the faculty would be considered for casualty station duty. The majority would be used for the expansion of the university hospitals and to contribute to the staffing of temporary improvised hospitals.

Junior and senior students could be used to great advantage. With a short indoctrination course in advanced first aid, these men could be used in casualty stations. They could also be of considerable assistance at aid stations. Selected students could be assigned to certain duties in both existing and temporary improvised hospitals. These men (and women) could be of particular assistance to the shock teams, checking blood pressure, starting intravenous treatments and helping to maintain records.

First and second year students could also be used, if a minor change were made in the curriculum. To use these students, it would be necessary to give intensive first aid courses, starting with the first day of the academic year. If such change were possible, these students could be assigned to duty in the aid stations. Another use for the first two year students is their employment as corpsmen in the hospitals. This again may require some change in the curriculum to prepare these students for their duties in the wards and in the operating rooms.

Many nonmedical technical people are associated with a medical school, many of whom could be assigned important duties during an emergency. Laboratory technicians will be especially in demand. Later in the operation, there will be increased needs for x-ray technicians. Dieticians will be required at the auxiliary and temporary improvised hospitals, as well as at refugee centers. Again, during the later phases, physiotherapists will be needed, and, at an even later date, occupational therapists. Many technicians will be needed to augment the public health functions, both in the field and in laboratories. Disrupted sewer systems will present problems of sanitation, requiring both field and laboratory supervision. Water supplies may be contaminated accidentally by damage to sewer and water lines as well as deliberately by saboteurs. These factors will necessitate increased bacteriological laboratory control.

Supplies Must Be Maintained

The large number of seriously injured will require huge amounts of blood, blood derivatives and substitutes. The schools can be of inestimable help in cooperating with the Red Cross in the blood procurement program by making personnel, facilities, equipment and space available. Any bleeding and processing centers should be set up near, but not in, the hospital.

Technical advice should be given during the planning stage. Standard treatments are promised from the Federal level. In view of the lack of direction from the national level up to this time, it seems probable that any expectancy of standard operation procedures in the near future is purely wishful

thinking. The apathy demonstrated by many states, particularly those that think they do not contain cities of strategic target value, contraindicates such planning on the state level. For practical purposes, the schools could cooperate with the local medical civil defense committees to work out standard procedures for the treatment of shock, burns, chest wounds and large traumatic wounds. They could also work on the problem of blood substitutes and the establishing of standard minimal laboratory procedures to be used during the stress of major disaster.

Close cooperation and liaison with the Radiological Defense Division should be accomplished to set up training standards and to provide for monitoring teams, to establish exposure limits for rescue workers and to develop treatment routines for radiation sickness casualties. In this section, minimal laboratory control becomes of great importance.

In the interest of the most efficient use of all available personnel, consideration must be given to the use of any instructors who have the M.D. degree who are currently assigned to the preclinical courses. These men are still physicians basically and could be used in casualty stations, on shock teams and for general ward service. There are frequently faculty members who have degrees other than the M.D., in the departments of anatomy, physiology, bacteriology, chemistry, etc. Advantage must be taken of their special skills. In some cases, they may require some retraining to fit them into a useful niche.

Research Should Continue

Research problems being conducted in some of the schools will present complications. Certain of these projects are vitally concerned with medical problems of the armed services, and others are of such general nature that they are applicable to the civil as well as to the military population. It may be advisable to retain certain patients in the hospital despite their classification into categories A, B or C. The completion of research and experimental work could in some instances save many more lives than those of the few casualties who would occupy the beds opened by evacuation of these patients. The most careful consideration and evaluation must be given to each project, especially if it is conducted in cooperation with or at the request of one of the government services.

Attention must also be given to animals used in research work. Aside from the humane aspect, the maintenance of animals may be necessary for the completion of vital investigations. The disposition of animals inoculated with bacteria and viruses may become necessary. Consideration must be given to the problems requiring the use of insects, to prevent the freeing of the insects in the event of damage to the buildings, and to provide for the rapid destruction of the insects if the necessity arises.

A tremendous problem faces the medical profession. Complete cooperation by every doctor, every segment of the profession, will be necessary to save the most lives, alleviate suffering and to return the greatest number of people to productive capacity in the shortest possible time. There is a place

for the medical schools, a very large and important place. The time for planning is now. After planning is complete, rehearsals must be held, to correct deficiencies. We must be ready to spring into action at the first bomb burst. When that occurs, it is too late to think. Action must be automatic. Sound preparation will guarantee such action.

Films in Atomic Medicine

In any program of education for civil defense, an obvious aid is the motion picture. An excellent survey, "Reviews of Films in Atomic Medicine," is available from Health Publications Institute, Inc., Raleigh, North Carolina. The booklet was prepared by the Medical Film Institute of the Association of American Medical Colleges.

The booklet contains three sections. The first, a short introductory chapter, deals with the applicability of existing films, breaking down audiences into classifications and recommending specific films for particular purposes. The second section abstracts the sixteen film reviews which comprise the longer third section, giving potential users of the films a quick prospectus of their relative value in giving teaching situations. The final section is devoted to the usual fine and detailed reviews the Medical Film Institute produces.

Of the sixteen films with which the booklet is concerned, eight of them have specific value in teaching atomic medicine. The others, beside having intrinsic interest in themselves, are considered valuable in the training of civilian defense personnel. Each film review contains information as to how the films may be obtained and a directory, in the front of the publication, lists distributing personnel.

Medical Planning for Modern War

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The jeopardy of modern war is not alone for the members of the Armed Forces—the civilian population suffers equally. This threat requires a revaluation of the distribution of medical services and facilities assigned for civilian or military needs.

For all wars to date, medical planning has followed the uniform pattern of providing for an exclusive medical service for the armed forces, including medical men assigned or attached to troop units, military hospitals and ancillary personnel for administration, supply and evacuation.

With few exceptions, civilized warfare to date has shared one common characteristic—so long as civil populations have refrained from overt acts of war they have been spared from enemy action. Not since 1813 has the United States been invaded; nor, with the exception of a few shells lobbed on the West Coast by a Jap submarine in World War II, has a hostile shot landed on Continental United States.

In wars of this character, the medical needs of civil populations were limited to routine care, and no special consideration was made necessary by the state of war. A rather large proportion of the medical potential of the country could be allocated for the exclusive use of the armed forces without serious consequences among the civil population.

This kind of warfare has now been relegated to a place among other extinct customs of mankind. From now henceforth, so long as war is an instrument of political relations, civil populations will find themselves in the thick of the fight. In order to carry on essential production during war, civilians will be unable to disperse into small scattered groups to minimize casualties as do soldiers on the battlefield. Whenever industrial areas are attacked the casualty rate in the civil population will be very much greater per thousand exposed than it will be in any battle.

Added to the danger from explosive missiles is that from bacteriological warfare, the effects of which promise to extend far beyond industrial areas and involve peaceful people in rural communities.

Medical Plan Needed for Total Population

All this points to the urgent necessity of a medical plan for the entire people—not a medical plan limited to the armed forces, disregarding entirely the rest of the population. Nor will two separate and uncorrelated plans suffice. If an ideal plan is perfected for the military, there will remain only bits and pieces from which to make a plan for the civil population, and this will not be good enough.

Statement to the Council on National Emergency Medical Service, American Medical Association, April 21, 1951.

In drafting one coordinated medical plan, we can start from the premise that, in theaters of war and in all foreign territory, the armed forces must have their own exclusive medical services. Medical service in battle must be integrated into the general plan of battle, and this can be done only when the medical service is an integral part of the force. Such complete integration is highly desirable wherever troops are assembled but, in my opinion, it is a luxury which we can no longer afford. It requires the withdrawal of too many medical men from the civil population, and we can no longer disregard the needs of the civil population in war.

Regardless of where and how the next war will be fought, a very large part of the medical needs of the armed forces will be within Continental United States. All casualties requiring protracted treatment will be brought home, and all troops will be mobilized and trained here. So, it is here that the major part of a coordinated plan will apply.

Military Casualties Must Be Evaluated

To begin with, there can be no economic or professional justification for the operation of exclusive military hospital beds for the definitive treatment of casualties of no further military usefulness—such as the blinded, the major amputees, the tuberculous, the psychotic, and others too seriously and too permanently disabled ever to bear arms again. Such cases should immediately be transferred to civil institutions, government or voluntary, where they can be cared for by medical people on part-time service, so that some of this medical potential can be reserved for the civil population. Yet a not inconsiderable proportion of military beds today are occupied by long-term cases which will never again return to military duty; and, if the war in Korea spreads, this proportion of permanently disabled in military hospitals will increase to startling proportions.

While civil medical institutions are a military asset, the reverse is not true. Military hospitals are for the exclusive use of the armed forces, and they can not be included in plans for the care of the civil population.

The present situation is that the medical planning of the armed forces is following the same pattern as it has always followed in the past. More and more military hospitals are being opened, and a large part of their load is the permanently disabled. In addition, thousands of dependents of military personnel are being hospitalized in these hospitals, and other thousands of veterans with non-service-connected disabilities. These latter two groups are certainly segments of the civil population and, by and large, segments that will suffer least from enemy action if we are attacked because the great majority of them reside outside of target areas. Despite this, we are operating exclusive hospitals and withdrawing medical people from the rest of the civil population for their care. This is not only uneconomical, it is extremely unfair.

VA Facilities Could Be Used

Some months ago, the Chief Medical Director of the Veterans Administration offered the armed forces 40,000 beds in veterans' hospitals for the care of casualties from Korea. These beds are staffed largely with professional people of wide experience with battle casualties in World War II. They are largely supervised by the most expert profes-

sional men in the country—of training and experience far greater than most of the medical people now in military service. Most of these professional staffs are made up in considerable part by part-time physicians and surgeons whose services are still available to the civil population.

The Veterans Administration also operates eight amputation centers and a rehabilitation center for the blinded which is by far the finest of its kind in all the world. Yet this great medical potential has been almost completely ignored by the armed forces, which have established their own amputation centers and have not, at my last information, transferred a single blinded casualty to the Veterans Administration.

This is extravagant duplication of effort. While we possibly can afford such extravagance in a limited mobilization of some 3½ million men, we shall experience the greatest medical debacle in all history if we attempt it in an all-out war.

Problem of Residency Program

The military requirements for medical care have created another very serious problem. This is the disruption of programs of training of medical specialists. The effects of this will be serious for years to come, and may well cause this country to lose the medical leadership of the world to which it has risen in the past 30 years. A coordinated medical plan for all the people would not only save the resident training program, it would promote it. It is obvious that accredited residency programs cannot be conducted in military hospitals during periods of war or national emergency; but, if the bulk, or a considerable proportion, of military casualties were cared for in established civil hospitals—either those of the Veterans Administration or voluntary hospitals—the existing programs could be continued without interruption, and all who participate in them would be contributing to the war effort.

As I stated before, I do not think that this extravagance and this muddled planning will create a really critical problem if our mobilization is limited to 3½ million men. However, the danger is that we may find ourselves at any minute—over night and without warning—in an all-out war which will be much worse even than World War II. When that happens, the time for planning has ended, and we are stuck with the plan of the moment.

This is why it is so necessary that a sound medical plan be made at once. We must use this period of partial mobilization to test the plan, and to get all the "bugs" out of it. It will require considerable experience before it will work smoothly. We dare not start a war with the present medical extravagance and then find out, before the war is well begun, that we have exhausted our medical potential with millions of good Americans left without any medical care. We must start now with a medical plan which can be expanded smoothly to meet any situation up to total war in which every man, woman and child in this country is involved.

Education for Professional Services

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Since Plato first wrote of the necessity for educating men to wisdom, scholars and thinkers throughout the Western world have repeated his message again and again. Thomas Jefferson thought that it was enough to make the people literate and wisdom would follow. But today our educational system is fragmented, stressing occupational values, and in danger of letting our civilization follow the path, like Rome and Athens, to decay and destruction.

I speak about education—but not without serious misgiving, since I know I have nothing to say which has not been better said many, many times. Most of it was said by Plato more than two thousand years ago and it has been repeated over and over again, with varying accent, down through the centuries. It has been repeated not only by our philosophers and by our scholars but by all those who have contributed to the essential core of Western Culture. St. Augustine, Thomas Aquinas, Shakespeare, Shelley, Wordsworth, Plato, Lincoln, Aristotle, Brahms, St. Francis, Spinoza, Beethoven, Goethe, Henry Adams and a vast array of those who, through the centuries have nourished man's spirit, still live in their work to teach us once more that good and evil are positive forces, not philosophical concepts, and that they determine man's destiny. This noble company of men and women, rising above the stress of their own days have revealed a vision of greatness in history, in literature and in music which nourishes the spirit.

Education Transmits a Heritage

Such nourishment, such a vision of greatness is needed today as never before if we are to control the demonic forces which man has fashioned in his brain and unleashed against himself. Its embodiment is a heritage of inestimable worth since, without it, each generation must revert to the Caliban's existence of Neolithic man. The first function of education is to sustain and cherish this heritage and pass it on to succeeding generations—otherwise the efficient, highly specialized, vocational training which accomplishes modern miracles but remains ignorant of man's spiritual needs may well prove our undoing.

The culture of the West and liberal education, which really means education for a free man, are inextricably interwoven and finally come to be one

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and the same. Sciences, techniques, politics, the particular side effects peculiar to Western culture with their competing, fragmenting, specializing impact on society have grown at an ever accelerating tempo and have pre-empted a dominant place in our scheme of education. The basic culture of the West has grown slowly and has endured through long periods when it was dormant, when man "seemed to have cut away his traditional cultural roots." But these roots grow deep and our civilization has survived through many episodes of devastating disorganization. Because this is so there is danger that we may assume that our roots are eternal and, so believing, unconsciously proceed to our downfall.

As Lewis Mumford has pointed out, one of the great fallacies which cripples us seriously when facing the terrible realities of the present world is the assumption that progress is automatic and that the pattern of life which we have evolved since the Renaissance is permanent. This fallacy became articulate in the dogma of progressive evolution on whose bright crest our twentieth century broke upon the sea of history. It is a very ancient fallacy however and it has reappeared many times in the course of the story of Western society.

Greece, in the fifth century B.C., even in retrospect, would seem to have established the prerequisites of a permanent civilization. Life was good, reason and measure and balance seemed to govern the affairs of men to a degree not to be achieved since that time. The Athenian, in the day of Pericles, must have looked forward serenely into the future, confident and secure; but the forces of disintegration were already at work and Hellenic civilization broke apart with such devastating swiftness that even the wisest of the Greeks were unaware of what was happening to them.

The Romans in the third and fourth centuries A.D. enjoyed the same illusion of permanence. The Empire sat astride the world, the rich were becoming even richer and more powerful and there were bread and circuses and public works for the poor. Far flung armies held the barbarian in check and Rome sat secure upon her seven hills. But the historian knows that the Empire, even then, was rotten at the heart and it crumbled in the fifth century almost as rapidly as Greece had succumbed 800 years earlier.

No Pattern Is Eternal

No, there is nothing eternal in the pattern of life we have constructed; nothing permanent in our particular mode of progress. For more than half a century wise men have cautioned us that our mechanical civilization, our phase of "progressive evolution," unless fundamentally modified, would surely lead to the disintegration of Western Civilization. These modern prophets: Mathew Arnold, Cardinal Newman, Henry Adams and Brooks Adams, Albert J. Nock, and more recently our contemporaries A. N. Whitehead, Lewis Mumford, Arnold Toynbee, and certainly Sir Richard Livingstone, have all warned us of the great fault in our education. We have mistaken the means for the end; we have emphasized the strife of achievement but have neglected

to define any goal except further effort to achieve; we have been training men *to do* instead of educating them *to live.*

Many factors have contributed to the fall of previously great civilizations —the story fills the history books—but most critics agree that one trend has been common to all such catastrophies. When a civilization becomes dominated by the concept of material progress; when the great liberal truths which man has learned and relearned since he first struggled from primitive savagery are ignored in the race for power and wealth; when the creative spirit of a society is primarily dedicated to the production, the acquisition and the distribution of wealth, then that civilization is mortally sick and is headed for collapse.

How well has modern education in America nourished and cared for our spiritual heritage? How has it taught our youth to distinguish the liberal humane, life-giving forces from the evil life destroying forces? How well has our education disciplined us to live while training us to do?

It is not obscure, academic curiosity which leads one to raise such questions today. Universal, compulsory education was established by the emancipated democracies in the early 19th century. Thomas Jefferson recognized such education as a basic obligation of democracy, saying: "No other sure foundation can be devised for the preservation of freedom and happiness." For this statement he had not only the conviction which grew from his own considered judgment but also the authority of Plato who said the same thing about the ideal state. Education has always been accepted as one of the chief building stones of democracy because education was to do what? To give men power through technology? To give them wealth through expanding industry and trade? To give them leisure through respite from toil and labor? No, none of these. Education was to make men free. Free in the spiritual and not in the material sense.

Freedom is the Function of Education

The dominant importance of this function of education which many men have believed essential to the idea of democracy might have been questioned thirty years ago. It was argued then that the magnificent advances of science had created a new and different world, that progress was inevitable and in this new world the traditional conceptions of liberal culture had largely lost significance. That this argument is false has been demonstrated with heartbreaking certainty by what has happened in the world in recent years. The cult of power rising on forces engendered in the machine has culminated in that suicidal threat to Western society, the totalitarian state. Hitler, Mussolini, Stalin, these names are only symbols. Symbols of a state based on the downright denial of all the positive values by which civilized men have wished to live. The first overt act of such a state, once in power, is the complete destruction of everything which fosters or nourishes those values.

The lesson should be clear; the modern barbarians do not destroy science and technology, they do not wipe out the machine values but instead convert

them into terrible forces of evil and death so that those who would resist their mad rush must out-do them in ruthlessness. What they do destroy with devastating thoroughness is liberal culture of the people. They destroy their roots into the past, their libraries, their free press, their religion, their belief in the essential dignity of man. In short,—destroy the education which makes men free. It is unnecessary to labor the point further, for you have been watching the incredible phenomenon ever since that early dawn in 1914 when Sir Edward Grey stood on the balcony at Whitehall and as the night lights of London flickered out said to his companion, "The lights are being extinguished all over Europe and they will not be turned on in our life time."

Is there anything fundamentally wrong with education in the United States? Nowhere in the world has the idea of universal, compulsory education been so widely and so wholeheartedly endorsed. We have magnificent schools, superb foundations for research, monumental libraries, and each year a staggering amount of money is spent throughout the nation to defray the cost of education. This is possible because of the underlying, implicit faith of the people that the school is indeed the foundation of democracy. Our faith in the school is almost sublime and the great numbers of our young people who proceed far enough to be exposed to the influence of higher education in our colleges and universities would seem to justify that faith. In a quantitative sense the American achievement has been tremendous. If fault is to be found it must be sought in the quality of that education. That there may well be some very significant fault seems to be indicated by the obvious fact, that, in spite of our tremendous accomplishments, we are still an uneducated people.

Critical Judgment is Lacking

It does not seem unreasonable to expect that after almost a century of compulsory free education we might have developed a nation characterized by capacity for independent, critical judgment; by the willingness voluntarily to uphold certain standards based upon the appreciation of relative values—especially the values of good and evil; by the development of the rudiments of taste and culture. Thomas Jefferson expected as much from a program of universal education far shorter in duration than the one which obtains today for he placed as his goal the development of a literate people, maintaining that citizens who could read had the means of being correctly informed about public affairs and "if they were correctly informed they might be expected to do the right thing about them."

Judged by such reasonable standards I repeat, we are still an uneducated nation. Uneducated as attested to by our cheap tabloids, by our innumerable trashy magazines, by our unbelievably vulgar advertisements, by our movies, by our radio and by our television programs. These provide an accurate index of what appeals to our people; they are manifestations of their taste, their intelligence and their basic sense of values.

How shall we become an educated people? Obviously the answer is not that we educate too few. Perhaps it is to be found in the kind of educa-

tion we offer. To me the question seems not to be how much education but rather what kind of education. Jefferson assumed that as the level of literacy rose the level of general intelligence and taste would rise with it and consequently a literate populace, becoming ever more intelligent, must select the even more intelligent and more capable to serve them in public office. Education at state expense would bring everyone to the level of literacy and in order to educate leaders a strictly selective system of progressive education would carry those of manifest capacity to the very highest levels. By such a system of selective education based entirely upon capacity to profit by the privilege of continuing further, the essential body of leaders, statesmen, educators, and in general, of public servants would be assured.

Jefferson's plan is somewhat reminiscent of the training of the guardians in Plato's Republic and together they share some of the same defects. What Mr. Jefferson failed to foresee was that there is no obligatory relationship between literacy and the level of intelligence. We have learned this fact to our very great distress. Nevertheless one must accept the thesis that the foundation of an educated people does rest upon literacy and the question becomes not shall they read but rather—what shall they read! To answer this question would seem to become one of the fundamental functions of education.

We Must Stimulate Curiosity

Most of our states require that all of their young people remain in school until they have reached the sixteenth year. A substantial proportion remain to complete the high school course. Since they enter school at the age of six the exposure to schooling lasts from 10 to 12 years. Now I do not believe that a rounded education can be obtained in that time but I do believe that in the majority of our children intelligence can be stimulated, curiosity aroused and taste cultivated to the extent that a great number will continue their education at the close of formal secondary schooling whether they proceed to the college and university or not. This can only be accomplished if, from the very earliest days of his education, the child is made aware of the continuing nature of his experience. It seems somehow to be forgotten that people can read with profit after they leave school and if our formal education is unable to teach children to read for themselves as an intellectual pleasure it will probably be unable to teach them much else of value as far as education is concerned and we should drop the term and substitute the word "training."

To me it seems self evident that one of the elementary functions of primary and secondary education is to inculcate the desire to read and to develop at least the rudiments of taste for the literature of our own tongue. That we fail to accomplish this in any large measure is, I believe, the conviction of most men who teach in college and university and are thus in a position to evaluate the accomplishment of the schools.

Many will undoubtedly refuse to accept this flat statement that our schools, in large part, fail to educate children to read intelligently. Such a criticism

implies a state of affairs which is unbelievable to them and since it is unbelievable it cannot be true. Now we come to one of the defects which permeates the attitude of the American people toward education. I have said that our faith in education as the foundation of democracy is implicit; it almost amounts to a religious conception. Such a faith, once established, is seldom open to critical appraisal and, like religion, education may quickly degenerate into a routine; then its meaning and its effect are lost. We take education for granted in a system such as ours and soon come to be what Sir Richard Livingstone has described, as "Light, half-hearted believers in a casual creed."

Half-hearted believers because compulsory education has come to be an accepted fact for several generations. It is no longer a dream we must fight for, plan for and build for; all that is in the past and the goal of our forefathers has long since been attained. It is far easier to accept accomplishment with complacency than to maintain a critical attitude which strives constantly for improvement. The people are satisfied and they pay for it—any fool can prove that education can be "justified" by juggling with a table of comparable earnings. Almost without a dissenting voice being raised we judge the ultimate value of education by the criteria of the market place. And so the creed becomes a casual one, a comfortable one and those who rise to question or criticize are quickly labeled as crack-pots, agitators, half-baked intellectuals, or with any of the terms by which America loves to stigmatize those who disturb her complacency.

Profit Motivates Education

The bald fact is that we, as a people, no longer hold liberal education in high regard; we do not think very well of the education which nourishes man's spirit. Instead, accepting the pragmatic utilitarianism of our day, we have filled the student's time with whatever seemed to him and to his parents to be most immediately profitable; the vocationalized, the specialized, the elective and the eclectic, with the transient fads and interests of the day. We have established no standards, acknowledged no immutable values and adhered to no common faith. With amazing arrogance we have turned our backs on the past, thus ignoring Santayana's wise observation that "Those who cannot remember the past are condemned to repeat it." With sublime faith in the belief that in this new age of science and enlightment mans' salvation would be achieved with slide rule and analytic balance, we have piled specialization upon specialization with the inevitable result,—fragmentation of education. "We have established a system of education in which we insist that everyone be educated, yet there is nothing in particular that an educated man should know." So said Walter Lippman in 1940 and the decade which has passed since then has emphasized the significance of his statement.

Let us listen again to those ancient words which once we knew so well. Through 3000 years they come clear and bright from the great sage of Israel —"For wisdom is the principal thing, therefore get wisdom, but with all thy getting, get understanding." Surely an education in which the accumulation

of knowledge grows into wisdom and then ripens into understanding is the education essential to preparation for professional service. The very phrase professional service implies a recipient. What is to be served? People; human beings!

In his service the professional man must act in a three fold capacity. He must appear simultaneously as skilled servant, as sage and as priest. In no professional role is this trinity more fully illustrated than in that of the physician. Knowledge is needed and often most detailed knowledge sharpened into tempered skill; but that is not enough. Wisdom must be there to condition knowledge; but that is not enough. Understanding must guide skill and humanize wisdom and then only do we see the great physician. Surely it will be conceded that quite apart from technical competence and medical knowledge the physician must be wise in his understanding of human beings; therefore it follows that his education must be sufficiently broad, sufficiently humane that it will discover and develop those qualities of mind which later will be required to direct technical skill. The basis on which such an education can best be built is afforded by the traditional liberal curriculum which sprang from the humanities.

III

What has happened to change the quality of higher education in the United States during the past 80 years is dramatically high-lighted in the writings of each of the three distinguished gentlemen who has graced the Presidency of Harvard University since 1869. President Elliot, delivering his inaugural address in October of that year, took the occasion to state with great emphasis that he would be in the vanguard of the rapidly growing movement which aimed to broaden the scope of college and university education. He urged that the natural sciences must find sanctuary in the college and that the utterly inadequate facilities for teaching these subjects must be expanded from lecture hall and demonstration desk into the student laboratory. He pointed out with clear logic that the field of human knowledge had long been too vast for any man to compass and that new subjects must be admitted to the scheme of instruction, which became thereby so large that no student could follow it all. Recalling the narrow frozen curriculum which had encased higher education in America for 150 years, it is not surprising that Elliot, in the mid-nineteenth century should champion the cause of election as the only means of bringing the educational programs of the colleges to life. He foresaw the dangers inherent in his proposal, and we find him setting down firm restrictions to a conception of freedom which might lead to disintegration saying, "The liberty of the choice of subjects is wide, but yet has rigid limits. The choice offered to the students does not lie between liberal studies and professional or utilitarian studies. All the studies which are open to him are liberal and disciplinary, not narrow or special. Under this system the College does not demand one invariable set of studies of every candidate for the first degree in Arts; but its requisitions for this degree are nevertheless

high and inflexible, being nothing less than four years devoted to liberal culture."

One wonders what Mr. Elliot would say were it possible for him to return and examine once more the college curriculum in its current state of fragmentation. Remember what has happened in this nation since he proposed education reforms in 1869. We had only begun to recover from the shock of the Civil War, but even then we were girding ourselves for what Henry Adams was to call, "America's mad race for power and wealth." The next fifty years were to see a dominantly rural nation transformed into the greatest industrial power the world has known. A profoundly religious people were to become materialistic and irreligious. Standards of behavior were to be altered unbelievably and manners were to be relegated to the limbo of Victorian affectation. The American success story was to become the shining standard held before the vision of America's youth and success meant material and social advancement. Students came to regard the school as a mere training ground for personal careers and when they thought seriously of education they evaluated it from a purely practical point of view asking first; is it useful for life? When they have asked that question they meant, by and large, would it equip them for a career which should bring money, position and power.

Elective System Eased Pressures

The colleges and universities, adapting themselves to the pressure of public demand found in Mr. Elliot's conception of the elective system, a most useful tool; so much so that Elliot's successor in office was to devote a conspicuous part of his inaugural address to a summing up of the consequences of the elective system which extended far beyond the limits which Elliot had prescribed.

President Elliot's long administration of 40 years closed in 1909 and in October of that year Mr. A. Lawrence Lowell took office. In the address delivered on that occasion he reviewed, most objectively, the results of 40 years of college education in the United States under the increasingly popular elective scheme. He pointed out that Elliot's conception of such an educational program differed sharply from the uncritical, loosely co-ordinated curricula which prevailed almost universally in our colleges in 1909 (and still prevail). Mr. Lowell maintained that, "The individual student ought clearly to be developed so far as possible, both in his strong and in his weak points, for the college ought to produce, not defective specialists, but men intellectually well rounded, of wide sympathies and unfettered judgment. At the same time they ought to be trained to hard and accurate thought, and this will not come merely by *surveying the elementary principles of many subjects.*"

Lowell expressed dismay over the absence of any balance or form in the pattern of college education and over the lack of appreciation of the true significance of education on the part of the people saying—"This is seen in the comparatively small estimation in which high proficiency in college studies is held, both by undergraduates and by the public at large; for, if college education were now closely adapted to the needs of the community,

excellence of achievement therein ought to be generally recognized as of great value. The transitional nature of existing conditions is seen again in the absence among instructors as well as among students, of fixed principles by which the course of studies ought to be guided. It is seen, more markedly still, in the lack of any accepted view of the ultimate object of a college education." How close this comes to Lippman's devastating criticism to be made thirty years later, to the effect that everyone was to be educated but there was nothing in particular that an educated man should know. Mr. Lowell had expressed the hope that the confusion which existed in 1909 merely represented a period of transition in the maturation of the elective system. Unhappily we know now that it was not a period of transition but rather a time of shattered values.

Public Schools Held Core of Education

Mr. Conant, who accepted the mantel of Lowell in 1933, left no scholarly inaugural address but confined himself to a dignified statement of his hope to meet worthily the duties and heavy responsibilities of his office. However, we who are his contemporaries, have not been left in the dark with regard to his philosophy of education. In his many public addresses and specifically in the book published by the Harvard Press in 1948 we find him meeting the problem of "Education in a Divided World." Accepting President Conant's conception of "General Education" as a substitute for what he regards, somewhat narrowly in my opinion, as the humanities, we find that he also hopes to regain a sound foundation on which the specialized and the vocational shall be built. He differs in his attack from his two predecessors however in that he by-passes the college and goes directly to the schools believing our great system of public schools to be the essential core of the problem of American education. In this conclusion he is in agreement with Professor A. N. Whitehead who, in the early twenties, deplored the sharp break which had fragmented education into the scientific and the liberal, leading directly to evaluations based upon the criterion of immediate utility. Like President Conant, Professor Whitehead feared that the future of liberal education would be decided in the secondary schools and in the vocational schools and that higher education would be "forced to follow suit whether it liked it or not."

It should be manifest that the vexing differential which must be recognized, in an industrial society, between vocational training for technical and industrial pursuits, and the general education which must be the foundation for the professions, can be established at the level of the school with obvious advantage to the colleges and with economy to the nation. Conant insists with great force that the establishment of such a differential must be in accordance with the democratic tradition of this nation. He accepts, as beyond controversy, the fact that, "a modern, industrialized, highly urbanized country can prosper only if the professions are full of capable, imaginative, forward looking men." So that this end may be realized in consonance with our policy of equal opportunity to all, he insists that those who do obtain a professional education should do so on the basis of merit and merit alone. The

machinery for leveling the economic barriers to a college education must therefore become more effective than it has been in the past. Then, Mr. Conant believes, "That by relating their educational undertaking to the ethics, the welfare of the body politic, and the emotional stability of the individual, humanists can make an overwhelming case for the importance of their mission."

IV

At some length, and at the risk of appearing repetitious, I have discussed the educational philosophy of Harvard's three presidents. I have done so because I believe they have brought to us the essence of our story. The story of a reformation in education which, because of the very nature of the times, had got out of hand and which we now strive to bring back under reasonable control. I have said little about the specific problem of preparation for the study of medicine, and I propose only to summarize my beliefs which are founded on the ideas expressed in the body of this essay.

I believe that a four year course leading to the first degree in Arts, is the best background for the study of medicine. I believe that the conception of a specific premedical training is unnecessary, misleading to the student, and detrimental to his full development as a professional man. I am certain that the 36 to 40 semester hours of science now announced as essential by medical schools can be fitted into the 120 hours required for a bachelor's degree so that the remaining two-thirds of the time can be used for an organized program of general education. I would insist that this program of general education be rigorous and carefully planned and that it must not be left to superficial sampling on the part of the student. In other words, a major in English, History, Foreign Languages or the Classics with a minor meeting the minimal science requirements provides a far better preparation for the study of medicine than the hodge-podge which now prevails.

You will not believe that, will you? You are thinking to yourselves—"That is what he says, but that is not what his committee on Admissions wants." My answer is simply, try us and see; for you have seldom given us the opportunity to show you what we will do. But remember, always, we are talking about strong, competent students—we simply are not interested in the mediocre.

In conclusion, I would sum up my own conception of education for the professions in two quotations.

Said Plato—"It is not the life of knowledge, not even if it includes all the sciences, that creates happiness and well being, but a single branch of knowledge; the science of good and evil. If you exclude this from other branches, medicine will still be able to give us health, shoemaking shoes, and weaving clothes. Seamanship will still save life at sea and strategy win battles. But without the knowledge of good and evil, their use and excellence will be found to have failed us."

And 2,000 years later from the inspired pen of A. N. Whitehead we have

this striking sentence: "Moral education is impossible apart from the habitual vision of greatness, if we are not great, it does not matter what we do or what is the issue."

And never in the history of Western Society has man been more acutely in need of the "habitual vision of greatness."

ACKNOWLEDGEMENTS

When one has been thinking, talking and reading about the problems of education for more than twenty-five years, it is rather difficult to give precise acknowledgement for the ideas which are brought together in an address such as this. Therefore, I am listing some of the books which have been of great value to me during that time in the belief that others may be interested in what men much wiser than I have had to say about our problem.

ADAMS, BROOKS: *The Law of Civilization and Decay.* Alfred A. Knopf, New York.

ADAMS, HENRY: (1) *The Education of Henry Adams;* (2) *Mont St. Michel and Chartres.* Houghton Mifflin Co., Boston and New York.

ARNOLD, MATHEW: *Culture and Anarchy.* McMillan, New York.

BARZUN, JACQUES: *Teacher in America.* Little, Brown & Co., Boston.

BENDA, JULIEN: *The Treason of The Intellectuals.* Wm. Morrow & Co., New York.

CONANT, JAMES B.: *Education for a Divided World.* Harvard University Press.

ELIOT, T. S.: *Notes Toward the Definition of Culture.* Harcourt, Brace & Co., New York.

ELLIOT, C. W.: Inaugural Address.

LOWELL, A. L.: Inaugural Address.
The Development of Harvard University. Harvard University Press.

LIVINGSTONE, SIR RICHARD: *On Education.* The University Press, Cambridge (England).

MUMFORD, LEWIS: (1) *The Culture of Cities;* (2) *The Condition of Man;* (3) *Faith for Living.* Harcourt, Brace & Co., New York.

NEWMAN, JOHN HENRY, CARDINAL: *The Idea of a University.* Longman, Green & Co., London.

NOCK, ALBERT J.: (1) *Memoirs of a Superfluous Man.* Harper Brothers, New York; (2) *The Theory of Education in the United States.* H. Regnery Co., Chicago; (3) *Jefferson.* Harcourt, Brace & Co., New York.

PLATO: *The Dialogues.* Random House.

SANTAYANA, GEORGE: *The Realm of Truth.* Charles Scribner's Sons, New York.

TOYNBEE, ARNOLD J.: *Civilization on Trial.* Oxford University Press.

WALSHE, F. M. R.: *The Linacre Lecture*—1950. E. & S. Livingstone Ltd., Edinburgh.

WEAVER, RICHARD M.: *Ideas Have Consequences.* University of Chicago Press.

WHITEHEAD, A. N.: (1) *Aims of Education and Other Essays;* (2) *Adventures of Ideas.* McMillan, New York.

Unless men increase in wisdom as much as in knowledge, increase in knowledge will be an increase in sorrow.—Life is scientific if scientific knowledge and teaching based on that knowledge affects daily life, and its economic and political organization.

Bertrand Russell—Brit.M.J. 2:1307-11, 1949

The Two Year School in Modern Medical Education

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The importance of the clinical years and their interconnection with training in the basic sciences, the financial, faculty and other problems of the two year medical school make difficult the justification for its continued existence. There are other teaching requirements, however, which it may fulfill.

A. PRESENT STATUS OF TWO YEAR SCHOOLS.

Between 1900 and 1915, ten of our present medical schools organized, or reduced their curricula to, two year schools. In 1940, there were still ten two year schools (Alabama started in 1920; Wisconsin went to four years in 1925). Utah, Wake Forest, and Alabama established four year programs during the past decade. Of the seven present schools of basic medical sciences, North Carolina and Mississippi are actually at work converting to four years; Missouri and West Virginia are continuing an active study of plans for four year schools, as is North Dakota. South Dakota and Dartmouth apparently do not contemplate a change soon. We see, then, that nearly all the two year schools originated during the first fifteen years of this century and nearly all are disappearing during the fifteen years beginning with 1940. Undoubtedly, many factors influence these developments, including demands for physicians, economic considerations and evolution of the medical curriculum. Certainly a major factor in the continuation of these two year schools during the first part of the century was the setting up of the basic science curriculum as a distinct two year unit, referred to until recently as the "preclinical" portion of medical education.

The term "preclinical" is replaced now by the more apt term "basic sciences," which go hand in hand with clinical medicine throughout the career of the modern physician. That we are now in an important transition period in medical education is a matter of general agreement. It is reflected, for example, in the care with which the Survey of Medical Education stresses its function as a "survey" and not an "evaluation." Our standards of evaluation have rapidly lost their rigidity, in these years of rapid change. I would not presume, therefore, to speak with any degree of certainty on the subject of the role of the two year school, but would hope only to mention a few factors which seem to be of importance in considering this question.

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B. GENERAL TRENDS AND CONDITIONS OF SIGNIFICANCE.

1. *The increasing responsibilities of medical schools.*

The responsibilities of the modern medical school go far beyond the four year educational program for undergraduate students. Responsibilities have increased rapidly in the relationship between the medical faculty and hospitals —not only for educational programs but for leadership in offering high quality medical services. Typical of this trend is the development in the Veterans Administration Hospitals. The increasing emphasis of various specialty boards on training in the basic sciences is a definite factor in this increased load on medical faculties.

Any medical school that is to serve as an effective center for continuing medical education and for strengthening the teaching programs of small hospitals within its area of influence, must have a strong clinical faculty. The school which remains a two year school will not be able to assume its responsibilities in these important areas of modern medical school activity.

The tax supported medical care programs which are developing rapidly in many states call for some advisory body to which that state can look, and which will be as objective as possible in contributing to long range planning. Our society has not yet developed any group more adequate than a medical faculty for helping in this complex task. This represents a definite responsibility for the modern clinical faculty. Obviously, clinicians are needed.

2. *Internal changes in the medical curriculum.*

Following the reforms in medical education of the first and second decades of this century, the medical curriculum became so fixed that there was a clear line drawn between the basic science years and the clinical years in the medical school program. There is obvious now an increasing tendency to place more and more clinical activity in the first two years of work. For example, several schools have combined into a single sophomore course part of the neurology from the junior year, the neuroanatomy from the freshman year, and that portion of physiology dealing with neurology.

Many such instances mark the disappearance of the sharp line of demarcation between the first two years and the last two years of the four year program. With the disappearance of this sharp line, it becomes increasingly difficult for a two year school to interdigitate its curriculum with that of another school.

The rigidity of the medical school programs of the first half of this century is somewhat incompatible with the changing scene in American Medicine. More and more schools will undoubtedly undertake large scale curriculum revisions, such, for example, as the study and experiment now beginning at Western Reserve. This will make it increasingly difficult for a two year school to coordinate its program with more than one or two or, at the most, several of the medical schools if they are all experimenting in slightly different ways.

3. *The financial problem.*

The financial crisis in medical education is constantly before us. Univer-

sity presidents have become increasingly aware of the unusually heavy burden which medical schools have thrown on total University budgets. Certain financial arrangements have particular significance for the two year school, such as the arrangement West Virginia has had for some years with the Medical College of Virginia, or the arrangement for the payment of $1500 by the State of Mississippi to those schools which take the graduates of its two year school. The University of Colorado has instituted an arrangement for out-state payment, which enables it to take students from other states, if those states are willing to pay the actual cost of medical education.

It is fair to guess that some arrangement for payment for the cost of the last two years' work will have to be made by those states that continue with two year programs.

4. *Demand for more physicians and increased medical school enrollments.*

The generalized demand for more physicians has been one of the major factors leading to increased enrollment in medical schools. The 7,042 students entering medical schools in 1950 represent a 17 per cent increase over the average number of freshmen in the ten years preceding World War II. Several states are planning to build new schools. Most schools that can possibly do so have been increasing the number of students taken into freshman classes. In some schools the bottleneck has been in the laboratory space or in the instructional staff for the basic science courses, and in other instances the bottleneck has been in clinical facilities for the education of juniors and seniors.

C. PROBLEMS FACING A CONTINUING TWO YEAR SCHOOL.

1. The transfer problem is the most pressing, despite the present high quality of available students. Several trends furnish grounds for optimism: The increasing enrollment in medical schools, and the decreasing number of schools of basic science, will result in a fewer number of total students to be transferred, and a larger total medical school capacity. The increasing number of medical school affliations with hospitals is increasing the student capacity at clinical teaching levels.

These factors, however, are probably more than offset by such factors as the following, which are making it increasingly difficult to transfer students.

(a) The rapidly increasing diversity of medical curricula in the various schools makes it increasingly difficult to interdigitate the study program of the two year schools with many of the schools to which students have formerly transferred.

(b) Fewer students are failing, and therefore, many places available formerly, due to attrition, are no longer available.

(c) The pressures for increased enrollment have caused many medical schools to break the bottleneck of the limitation of numbers in the basic science courses and increase the number of incoming students. In some schools, therefore, within a year or two, this increase in the size of the freshman class will be reflected in a smaller number of available places in the junior year for transfers from other schools.

(d) Problems of financing, and problems of state restrictions, will present increasing difficulties.

Arrangements for transfer could be made most effectively with sound long-range planning in the relationship between the schools involved. In the case of schools actively considering change to a four-year program this development of mutually satisfactory arrangements with other schools for transfer of the students is made difficult, due to the uncertainty as to the timing of the development of a four-year program.

2. *Tension of students is a major problem.*

The tension on the student in the two year school, who is in suspense regarding transfer, all too often goes far beyond that necessary to stimulate learning, and serves as a block to the learning process. The tension on the faculty to prepare students for numerous other schools results in internal pressures within the courses offered in the two year school, which, in turn, tend to develop a degree of competition greater than in four year schools, and is probably unwholesome.

3. *Limitation of progress due to lack of freedom for experimentation is a problem for the faculty.*

Constant pressure to fit their students for the programs of other schools tends to place the two year school in the position of a second rate contributor to progress in medical education.

4. *Dependence on arrangements with other schools will undoubtedly continue to increase.*

All these factors combine to support the conclusion that in the future the only satisfactory arrangement for a two year school will probably be in the direction of more definite alignment of the program of the two year schools with some specific four year schools. These four year schools would be drawn more and more into questions regarding selection of students and changes in the curriculum for the two year school. The present trends make it appear that the freedom of the two year schools will be increasingly limited, and in fact that their only opportunity for survival will be to depend upon some program which takes them under the wing of one or more existing four year medical schools.

D. FACTORS POSSIBLY CALLING FOR NEW FUNCTIONS OF TWO-YEAR SCHOOL.

1. *Recent consideration for establishing two year schools.*

Within the past few years considerations of the establishment of new schools of basic medical science, such as in the State of Arizona, and at one of the colleges in Southern Illinois, have led to the conclusion that such a move is unsound at present. No new two year school has been established in thirty years. It may be possible, however, that certain trends are at work which will call for the development of a new role for the two year school in education for the health sciences, including medicine.

2. ***Trends that may be important.***

(a) Since the modern physician is only one member of a team of professional workers necessary for maintaining the health of the people, present trends are in the direction of increasing professional education of such groups as nurses, social workers, health educators, various technical personnel, and various public health workers. We face the task of reexamining, during the next few decades, the optimum division of labor among variously trained personnel if we are to render most efficiently the highest possible quality of medical care, and of health services to the people. It is conceivable that we may reach the stage where there would be a common core of subject-matter which will be applicable not only in the training of the M. D., but in the educational program of a number of other health workers. While this trend may crystallize into some definite need for combined programs within the next few decades, it is unlikely that it will come about in less than twenty or thirty years.

(b) As we have mentioned, the medical school has a responsibility which goes on beyond the granting of the M. D. degree. It involves both hospital training programs and programs for continuation training of practicing physicians. Increasing demand for combining professional training with a general cultural education, in some instances may cause medical schools to take an interest in the student from the time he leaves High School, although at present this task is clearly delegated to the Liberal Arts College. The pressures brought about by the 12 to 14 years beyond High School necessary to become a physician may encourage trends at the professional school level similar to the development of the junior high school concept, and more recently the junior college concept. It is quite possible that within two or three decades we shall see the suggestion for a re-allotment of time during this 12-year period, which permits closer relationship and administrative unity between the clinical years in Medical School and the prolonged program of hospital training. This is more likely to occur when medical schools take over a more definite responsibility for all hospital training. This involves the question of the present role of the specialty boards in dominating the educational programs at this level, and is a question too complex to explore further here. It is conceivable that within a decade or two, as an outgrowth of these problems, the line between the work actually done in the first two years of medical school and that done later, will again become a more clear cut line rather than the hazy boundary which it now appears to be.

Even admitting the possibility that both of these major trends will have some influence in increasing the importance of the role of the two year medical school, it is hard to visualize the evolutionary processes developing at a speed which would cause these factors to be important in less than the next twenty-five years. It would, therefore, seem unwise for any two year school to justify its continued existence as a two year school because of these factors which are yet far off in the future.

E. FACTORS NECESSARY FOR DEVELOPING A FOUR-YEAR SCHOOL.

1. *Finances.* Financing the establishment of a four year medical school is such a major problem that frequently it overshadows other factors just as important. The original cost of buildings for the physical plant is secondary in importance to the continuous operational budget. From the standpoint of the University the most important problem is how to assure an adequate operational budget for the medical school, without jeopardizing the financial support of other important and necessary University programs. Most Universities that have a successful or outstanding medical school have found it necessary to face quite squarely the fact that in our present state of development it is necessary for medical schools to be considered as a special case, or in other words as a fair-haired boy in the University family. It is interesting and important to note that in the case of the three states which have moved ahead in developing four-year schools in the Southeastern area (Alabama, North Carolina, and Mississippi), it has been necessary to educate the public and the legislative bodies in regard to the separate consideration of the financial underpinning of the medical school, as compared with the rest of the University. This calls for attitudes on the part of governing bodies and administrations of universities which set the medical school problem aside as one distinctly different from other divisions of the University.

2. *Teamwork.* As important as the financial aspects of the development of a four year medical school may be, these after all are secondary to the establishment of a spirit of faith and mutual confidence among those who control the various resources of the state. In every instance where a state-supported school of basic medical science has developed into a four-year school, there has been a long history of years of effort put into developing an integrated approach, not only on the part of University officials, but of other agencies and groups in the state who are interested in health programs, including State Health Departments, physicians in the State, and the people in the State whose health is at stake.

Where this integrated approach has been developed it has been possible even for states with limited resources to move ahead on their medical programs.

3. *The problem is broader than the University.* Since many other important aspects of this problem are involved, it is important to realize that the consideration of the establishment of a medical school involves factors that go beyond the immediate interests of the University, and call for the cooperation of other state agencies and interests in the adoption of a long-range plan.

4. *Loyalty to a common goal ahead of controversy and fixed ideas.* Wholesome difference of opinion is an asset up to a certain point, but when controversy becomes long standing, the fixed ideas of groups with vested interests becomes a handicap. People are very much alike, and there is just as much likelihood that there are vested interests in one group as in another. The important thing is that any state which foresees the need for developing a

four year medical school will never make progress unless loyalty to the needs of the state is put ahead of the vested interests of any groups. Importance must be placed first on the development of a program which utilizes the resources of the State to meet the needs of the State. Unless the emphasis is on this rather than on questions of location or of capital building expenses, it is unlikely that a sound medical program will develop.

Summary and Conclusions

The period of the two year school in modern medical education may be thought of as being the years 1915 to 1940. Its successful contribution has been closely related to the two year, self contained unit of the basic sciences. Evolution in the medical curriculum is rapidly eliminating the distinct line separating the first two years from the last two years of the four year program.

The increasing responsibilities of the modern medical school make it essential to have a strong clinical faculty. The two year school cannot meet fully the demands placed on the modern medical school.

Despite well qualified students, the transfer problems of the two year school are increasing because of (a) increasing diversity in the curriculum, (b) fewer failing students, (c) problems of financing and of state restrictions. The difficulty is only partly offset by the increasing capacity of all medical schools and the decreasing numbers of two-year schools. The increasing tension on students, and the limitations on the faculty of the two year school, portend rapidly increasing dependence of each remaining two year school on one or several four year schools. The degree of dependency may well involve decreasing freedom of the two year school in determining its own methods of progress.

The evolution in educational programs for various types of health workers, and a re-allotment of time groupings for the long years required for medical education may bring changes which again would set out two distinct years of work that would stand as a unit. It can hardly be expected that these trends will justify conscious planning for continuing a modern medical school with only two years of work.

The development of a four year school requires money but more important is a spirit of teamwork, mutual confidence and devotion to a common ideal on the part of various interested agencies and groups in a state, including the University.

In view of the need for the four year program and in view of the difficulty of continuing the operation of the two year school, there seems little or no justification for any state with adequate resources to delay in converting its school of basic medical sciences to a full medical school.

The Premedical Status

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When Jimmy embarks on his premedical course, he may or may not become a medical student. His motives and attitudes are unknown to his over-busy adviser, the registrar at the medical school where he may some day apply, and even, sometimes, to himself. Meanwhile, Jimmy is on the merry-go-round of grade chasing which often substitutes training for mental discipline in our present day pre-medical curriculum.

By the time a student is ready for college, the educational process has already been active for twelve years. For the first time, however, students in college find themselves with goals. Colleges require declaration of a major field of study, though some of them are hybrid fields of pragmatic culture.

Without hesitation, Jimmy signs up as a "premedic." Many of his associates are drifters, attracted by the glamour of the premedical status. There is collegiate prestige in engineering, for instance, but in the minds of Jimmy's associates nothing is quite like medicine, working so very closely to the lives and bodies of persons and saving them. The doctor can go around a bridge, but the engineer with a broken leg calls for help. In the courtroom as many lawyers make monkeys of doctors as the reverse, for the doctors do not have a corner on intellect, but at the bedside the lawyer calls for the doctor. This involuntary cry for a physician is one of the several principal features that sets medicine apart. Doctors are as inevitable as death; no other field of effort can claim that statement.

The mother of one of Jimmy's pals, a dominant woman, had talked medicine to her son publicly and privately, ever since he could remember. The father of another boy was a pharmacist who had always felt at the mercy of physicians. His roommate was an incurable idealist, out to save suffering humanity. A fourth man wanted the largest house in town. A fifth wanted power over the lives of others. A sixth wanted to cross the tracks. A seventh had a brother who died of meningitis five years earlier. Quite a few of the premedical group had come up with the idea, to them new, that the mind is all and everyone else is odd; they wanted to become psychiatrists. Most of these boys overlooked the fact that they had to learn medicine first; they could not enter medicine as majors in psychiatry.

Three or four years of college lay between Jimmy and the School of Medicine. The ostensible job was to learn, but the pressure was far more complicated. There were the premedical requirements, for instance. They seemed remote from medicine but he was told that physics was needed for x-ray, chemistry for drugs and zoology for surgery. He kept trying to convert these

subjects into medical terms and uses, but the teachers fixed that quickly. Without acceding to the teachers' wishes, grades fell. Without grades, there was no chance to get into medicine. Besides, the teachers said that fundamental principles were all. There are no fundamental principles in an x-ray machine; they are found only in experiments 1-25 in a course called Physics 2.

In college, Jimmy found that his only links with medicine were through his associates. There was a thrill in telling a new girl friend that he was a premedical student. The Premedical Club mixed naive conceit with equally naive idealism. A man who, according to rumor, actually charged a hundred dollars for an operation requiring ten minutes ("Well, there's a knife. Do you want to do it?") would spend a whole evening advising his group of future doctors. Most of the members of the Premedical Club would never see the inside of a medical school. Half of them only wanted to talk about it, perhaps for the rest of their lives. Some of them hoped to get a preview of the cadavers.

A Curriculum Existed

There was a premedical curriculum, managed by men who looked down on medical education. There was a medical advisor, a sort of traffic policeman who had time only to steer students into courses that would fill the requirements. The educational process rolled on relentlessly. Teachers had strangle holds on students. Those who "repeat after me" get grades, and more and more it became apparent to Jimmy that grades would buy his way, whereas understanding and attitude were incidental. Outwitting the teacher and getting ahead of those who were competing for a place in medicine were essential to reaching his ideal. Brains were better put to inconspicuous tactics than to a preparation for medicine. Jimmy felt more and more the impending pressure of that moment when he would apply to enter medicine, as though he had not declared his intentions before.

Finally, came the aptitude test, a strange medley of polyglot testing. There was an application blank that included some remarkable questions and got some remarkable answers. Grades were inspected. Some schools wanted letters of recommendation and interviews. During all this, Jimmy felt energetic but futile. Persons were appraising him but he could do little about it. He retained his idealism. He had spent hours drawing pictures of animals he would never see again and in designing organic molecules one or two of which would appear later in biochemistry. He had come to grips with a foreign language which, culturally, outranked the other courses, but which was accepted by both teachers and students as an aid in the study of medicine. Will Jimmy keep up with the English literature? Will a requirement of six units of foreign language make him either cultured or desirous of reading foreign literature? Are not these the goals, or is the goal six units?

If the truth were known, the principal benefit of these years of preliminary training were that, while he was in them, Jimmy grew up a bit. Medical schools might better demand a certificate that at least one year had been spent no closer than five miles to a college campus. Increased maturity and breadth

of outlook would do more for Jimmy than another year in school, spent the same way he had spent his years since the age of six. A little more useful information and an added modicum of culture at this stage means little; an increase in breadth of understanding and some realization of the place of education and medicine in the community would make a sounder premedical background.

Despite the exigencies of pragmatic politics, premedical training can have a more pronounced flavor. Culture can be recognized as a tough reality. It can include living, and earning a living. Cultural courses can be challenging, with philosophy, the theory of numbers, history, anthropology, any solid subjects into which students can really sink their teeth. Pragmatic courses can really be preparatory.

To accomplish this, premedical students will have to be recognized as the group from which medical students will come. To coast along, while they try to defeat each other and as often defeat themselves in their efforts to be selected for medicine, is dangerous, destructive and improper. It is also inefficient.

Who Educates the Students?

Suppose there are two hundred premedical students in a given school, sixty of whom will be accepted in a medical school. Deans are concerned with screening them. Advisors are concerned with having them get the prescribed courses. Teachers, whose premedical students are mixed with scores of others aiming at wholly different goals, concentrate on the routine presentations of their subjects rather than on teaching students who will go in very different directions, yet the essence of teaching is to aid students to go in a given direction. *No one is interested in educating premedical students.* Medical Schools are prohibited from poaching in this part of education, but find themselves conveniently in position to pick and choose without any responsibility.

Could we do something about them, still within the framework of men's attitudes and machinations? We can and we should.

Suppose, first, that all premedical students were placed under the advisorship of medical schools. This need not demand that premedical students be in universities with medical schools, handicapping the ones who come by way of other colleges. It is not incompatible with the system whereby students collect courses, units and grades as a family saves dollars for an automobile.

The suggestion that medical schools enroll all premedical students only gives them a responsibility that is theirs, without implying interference. Medical schools can assume this responsibility with any legitimate premedical student anywhere, provided he indicates a genuine hope to go into medicine and declares this intention to a medical school.

From then on, the medical schools can take their responsibilities seriously, realistically and flexibly. The effect of mere registration in a medical school on the morale of premedical students would be immediate. The present aloofness of medicine serves no purpose. Evincing an interest in those who hope

to become medical men and women is reason enough to justify the relatively simple matter of registration, acceptance of their intentions. Registration in a medical school will be a move toward the development of a sound attitude.

Freedom Is Compatible with Supervision

Then let the medical schools start not only their screening processes but educational progress. Through the premedical societies, at occasional deliberate gatherings, or in print, facts can be presented. This move is full of danger. It calls for both freedom and close supervision; they are not incompatible.

Students can be told that medicine does not consist of learning the names of a thousand diseases and how to cure them. They can be told that nine-tenths of the "miracles" of medicine are not performed by the genius of physicians and that for every miracle there is an unavoidable tragedy. They can be given an honest outlook on medicine, not a dreamy one, and they can learn what relationship medicine bears to other careers and services. Premedical students can begin to learn a forthright attitude, one which does not make medicine the peak of professions but which still gives it a dignified place in the community. This form of disillusionment is badly needed, though only because there is so much propaganda and human inclination in the opposite direction. At the same time, premedical students can begin to see that medicine could lose its professional status overnight by no more than a change in attitude, that trained experts in techniques not only could do good medical work but that medicine has always had its share of these. That law, engineering and industry are quite respectable, and that the M.D. is not a guarantee of either exclusiveness or respectability are also needed lessons.

The dangers in these essential moves lies in the fact that they are forms of indoctrination. Any indoctrination is dangerous. There are deliberate plans, for example, to indoctrinate in favor of socialized medicine. This is neither better nor worse than counter indoctrination except that the proponents happen to be the aggressors, forcing counteraction to find balance. There is danger of propaganda or overemphasis on specific subjects, on research, on academic theory, or on countless biased approaches, whereas balanced medicine has always tried to base its case on the best attainable harmony of all parts. Premedical students can learn the value of a balanced outlook.

Meanwhile, students are gaining premedical backgrounds as they mature. They are maturing as they "take courses," dozens of them, somewhat as a patient takes a course of treatment with x-rays or antibiotics. It is supposed to be a sort of inlay process which leads to a beautiful composite table on which the perfection of medicine may be put. It is, in fact, more like a series of hurdles, leading nowhere but necessarily successfully jumped before the tape is reached.

Maturity the Best Prerequisite

The "premedical curriculum" is a strange affair. There are several motives behind it. One is unrecognized. Medical schools want maturity. There is an inflationary dignity and prestige that goes with "raising standards." A

school that demands four collegiate premedical years feels quite superior to one demanding three. The most conspicuous motive, with a twist toward the truth, is that medical teachers, in a position to demand what they choose as prerequisites, take advantage of the opportunity. This is convenient, but it is not sound education.

To convert the premedical curriculum into prefaces to premedical courses would be impractical, even if it were within the authority of medicine, which it is not. To do so, for instance, would be unfair to the 65 per cent of the premedical applicants who will never reach medicine.

Improvement in a curricular sense, by the medical schools themselves, can be aided if they will be franker about motives. If maturity is desired, let maturity be sought, deliberately. Students need not be treated as though they were in kindergarten, though some are and will so remain. In other words, let us manage schools in such a way that students capable of maturity attain it in some degree. This can be an observed phenomenon so that we know which ones mature. Let us realize, too, that age and experience, neither curricular, can be large factors in maturity; academicians err in believing, often, that all good things can be tied up in neat bundles called courses.

As for the content of curricular courses, less emphasis is needed. Philosophy may aid one student; to another, botany can do as much good as zoology. There can be mental development and maturing influences even in music. Not what he or she learns to recite but how he develops is important. This is no plea for progressive viewpoints; it has no affiliations at all, but is nearer to a plea for a return to Greek and Latin, though only because they were solid in both mental discipline and culture.

There are few real prerequisites. The medical faculty can afford to restrict itself in that respect. Teachers in medical schools are not entitled to anything they choose in the form of requirements in courses.

Whose Time Is It?

In my own subject, I could gain 20 per cent in time for teaching by requiring certain preliminary work already available. Why not? For one thing, it would take premedical students five hours to get what we can give them in one hour as medical students, costing them much precious time. Again, although the subject happens to be generally useful, the course would not be taken by a majority of premedical students who never reach medicine. Also, unless our department is not doing its work in medical teaching, the saving of our time, at the expense of five times as much premedical time, is not ours to dispense. A smart dean would certainly see that any extra time that appeared was fairly dispensed. Properly and ultimately, it is the students' time; the decision as to proper use is a matter of education, not of authority or importunacy.

More flexibility and more realism in our premedical curriculum will give us much. Registered premedical students, about 50 per cent freer in choice of courses, can be under surveillance. This is a potent added factor in the

endless problem of the selection of medical students. At the rate of about $13,000 to train a medical student, we can afford to look over the volunteers carefully. Observations of their development over several years will give a fairly complete basis for appraisal, especially if premedical students have a chance to demonstrate their energies, judgments and abilities, and are not mere flunkies following a set pattern.

It is axiomatic that, in selecting students, the more that is known the better is the basis for appraisal. That the more we know, the greater are the difficulties simply proves that the problem is not one of mere mechanical sifting; such sifting merely avoids difficulties by ignoring them. With three years or so to observe, there will be data for selection.

There will also be an increase in importunacy of all kinds. One of my best friends, an honest teacher of premedical students, says that he still has a perfect record: every student he has recommended has been rejected. There is no way to tell whether he is a poor judge, which, of course, he would not accept, or whether the school, which weighs carefully by relative but superficial standards was wrong, which it cannot afford to admit.

Student Motives Show

When the attitudes, motives and overall abilities of premedical students, along with their knowledge, are given honest and careful appraisal, matters will improve. In every move, students show attitudes and motives. To weigh them without prejudice is impossible. Prejudice can be avoided moderately well, however, if its existence is sought and is admitted. For instance, a student most anxious to make good (please others) is not as desirable as one most anxious to serve (help others), yet the two will be equally classified by inexperienced persons and experienced persons will err. Each observer and teacher should admit that he is no more likely to be "right" than the other fellow; there is no "right," only a best available answer based on total evidence. Inherently prejudiced observers who cannot do this can be noted; their views have to be weighed accordingly. What seems to be fair to one seems unfair to another; such matters have to be solved, not circumvented. Only by striving toward the real goals can progress be made.

Meanwhile scores of premedical students can be shunted aside long before they go too far on the premedical path, so far that adjustment to other work is awkward and difficult. As matters now stand, with medical schools taking part only when students with complete requirements make application, seven of every ten stand to meet defeat at the last minute or fail to apply after three or four years of preparation.

Bad Effects From Present Methods

The effect of present methods on the moral and medical fibers of premedical students is terrific. They (1) are ignored by medicine; (2) are taught that the route to success is not to be genuine students seeking understanding but to work for grades and plaudits, and (3) are taught to live in an atmosphere of harsh competitive pressure when they might better live in an atmos-

phere of cultural and practical learning. These things can be overcome in a fair degree and they should be. It is more important that this be done than that any specific course be included. A student who has come to grips with calculus and philosophy, with an ordinary record, perhaps, may well be a better student than one who has concentrated on teachers and examinations, or one who "took" Creative Listening and Elementary Psychology because he knew he would get better grades, yet under present conditions a student so unintelligent as to select dangerous subjects is not intelligent enough to get into medicine. Medical schools do not even see that this is the sharpest intelligence test they have in operation, a test which defeats its own objectives in sound training.

The much argued premedical curriculum is largely a myth. There are hardly half a dozen essential courses in all the premedical years. The idea that professional men and women can be built like buildings is wrong, though it would be possible to train technically proficient nonprofessional men and women who could do the work in assembly line fashion. The trends in socialization make this apparent enough.

Medicine Should Be Seen Realistically

Is this too difficult a program? I think not. All premedical students can be registered at nearby medical schools, wherever they are. Each medical school can consider them all to be future medical students, with them or elsewhere, until they are proved otherwise; but the narrowing process can begin long before the final official entrance to medical school. Medicine can be presented to premedical students as it is, not as Utopia. They can feel themselves a part of medicine, though on probation. The process of education and building of morale can go on, side by side with a continuous selective process, not based on how well students can follow Dale Carnegie's recommendations and please the teachers, thereby getting grades, though this is a factor, but on the whole story. The demonstrated mature intelligence, the will to work, the independence of mind, the sense of balance, the soundness of judgment, the sincerity of purpose, and the attitude toward the fellow man are prime measures of the type of person needed for medicine. If medicine is to remain a profession, and we shall be better off if it does, then it must do more than it is doing. Its present attitude is negative, defensive and losing. The professional status needs upholding at its roots; if the profession does not do it, it will find itself dealing with more and more thoroughly indoctrinated puppets, who will in time weaken the whole structure.

To interfere with premedical education by taking over its control, however desirable it may look, would be drastic and wrong. The chances are that medical schools would make matters definitely worse had they this control. There is no intention of advocating medical control of premedical education. It is contraindicated. We ask only better liaison, more interest in the development of men and women of character and intelligence, with knowledge secondary, to take the tough five to ten years medical training during which training itself does count for its own sake.

The Teaching of Pain

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Although pain is one of the most common symptoms, accurate descriptions of it are difficult to achieve. The author, noting that both clinical and preclinical teachers use the terms modifying pain loosely, suggests a method for making the teaching of this symptom more exact.

The physician, in approaching diagnosis, must know three things about the common symptom pain, namely, its intensity, the variations in its intensity and its quality. In addition, he must know the circumstances of its onset, its duration, its location and radiation and the factors that influence it. These additional facts, if obtainable, can be put into terms of great accuracy with common meaning to both patient and physician. The subjective nature of pain, however, makes accurate description of the pain itself difficult and leads often to a hazy conception on the part of the physician. A part of the confusion arises from the multiplicity of the terms used to describe pain and their loose usage. The words employed to define the three major facts about pain include the following heterogeneous list: Severe, moderate, mild; steady, throbbing, lancinating, stabbing, cramping, colicky; aching, burning, cutting, grabbing, squeezing, crushing, clutching, boring, stinging, binding, tearing; sharp, dull.

Sitting in the audience at a recent symposium on pain for undergraduate medical students, I was interested to hear some of these words and others used by both preclinical and clinical teachers with apparent overlapping of meaning and often with lack of clarity of definition. This experience suggested the presentation of a device for teaching pain that has been employed sporadically for a number of years and that has seemed to clarify in the minds of students the understanding of the clinical significance of pain.

The accompanying graphs present objectively the first two facts about pain, namely, its intensity and the variations in intensity. The third fact, its quality, cannot be graphically presented for reasons to be discussed below.

In all three graphs the base line (0) represents the condition of painlessness. The axis of abscissae designates *time*, which, of course, varies so much that there is nothing to be served by dividing it into conventional units. The axis of ordinates defines *intensity*. Here the subjective nature of pain, particularly the great variation in the susceptibility of individuals to pain, the elements of stoicism, imagination, articulateness and the like make any quantita-

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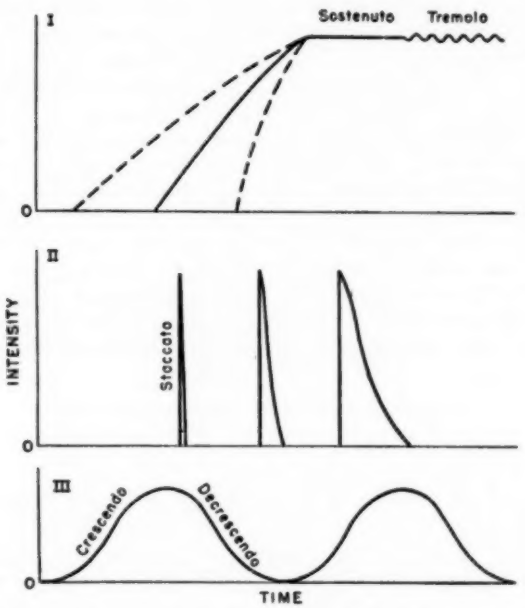
tive definition unfruitful. Although the device is original with the author, Lewis[1] has presented time-intensity graphs of a similar nature. He points out the value of defining these factors in the description of pain. Unquestionably, others have employed similar graphic methods.

Significance of Graphs

Curve I describes *steady* pain. Variations in the speed of its development are indicated by the broken lines of different slopes at its beginning. At the right is indicated the common variation of steady pain, namely, *throbbing*



pain. Steady pain is commonly the result of ischemia or of pressure, the pressure of a full bladder or the pressure caused by an infectious or a traumatic exudate. The throbbing quality is, of course, common in the last two in which an increased pulse volume causes momentary exacerbations of pressure.

Curve II represents *lancinating* or *stabbing* pain, a pain of abrupt onset, rising to its maximum intensity almost instantaneously, and of short duration. The three separate episodes indicate that its phase of disappearance may be equally abrupt or slower. It is the pain of direct nerve stimulus. Examples are the pain of tic douloureaux, of a pin prick or of a blow on an otherwise painless inflamed area, such as a small furuncle.

1. Lewis, Thomas: "Pain." New York, 1942 (p. 176, p. 36).

Curve III is that of a *cramping* or a *colicky* pain. It is the pain of overactivity of smooth muscle, the pain of uteteral stone, of cholelithiasis, of intestinal obstruction and of labor. It is the pain that precedes an attack of diarrhea, familiar to everyone. It is usually cyclic.

To apply comparable musical terms to the curves in the graphs could be considered whimsy, were it not for the fact that a musical analogy helps to understand the difficulty of defining the quality of pain. It is impossible to define aching, burning, cutting, grabbing, squeezing, crushing, clutching, boring, stinging, binding, tearing, without begging the question. A burning pain is one that can be compared to the pain of a burn, a statement that leads to no clearer understanding. Attempts to define the other descriptive participles lead to equally fruitless results. And yet each of us knows what is meant by these terms. It is like the sounding of a single note on different instruments. We cannot put in words the difference between middle C as sounded by the violin, the piano, the cornet, the saxophone; yet, although many of us cannot name the note, most of us can correctly name the instrument from which it comes. The differences lie, of course, in different patterns of the overtones produced by the various vibrating mechanisms. In some similar way, one can think of the differences in sensation between aching and burning and cutting and the others as the result of overtones of pain. This conception may be useful in our attempts to clarify the significance of pain and in stimulating an accurate use of words. It is interesting that Lewis uses a comparison with color recognition to illustrate the difficulty of describing these qualities of pain.

Sharp and Dull Have Varying Meanings

Sharp and *dull* are difficult words to deal with. They are susceptible of application to both intensity and quality. A patient may mean by a *sharp* pain, a pain of great severity, or a pain of brief duration, a lancinating pain, or a pain of cutting quality; and similar variations are applied in the use of the word *dull*. In spite of their common employment, their variable usage does not lead to clarity of interpretation. It would be better, perhaps, if they should never appear in clinical histories, or, if they appear as quotations, that a definition as the result of further questioning should follow.

It is not intended to imply in this discussion that all types of pain are included. The points presented and the employment of the graphs have proved useful in aiding students to think clearly about the more common types of pain.

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The Financial Problem—A Balanced Solution

A financial crisis faces the nation's seventy-nine medical schools today. It is of such gravity that the very existence of some of these schools is at stake. The standards of all of them are in jeopardy.

At a recent meeting of the National Fund for Medical Education, Herbert Hoover, the honorary chairman of the Fund, revealed that one university has deferred for a year a decision to abandon its medical school "because its deficits are too much of a drag on the whole institution." At another medical school the university authorities have debated, in recent years, the advisability of continuing to operate their school in the face of crippling costs. In both instances, the schools in question are privately operated. Both are parts of prominent universities. These are not examples of freakish economic situations in isolated medical educational communities. On the contrary, they are the end result, or near-end result, of a process that has been in operation for some years, one which, sooner or later, will present all private schools and many state schools with insuperable financial problems.

The present situation reaches a climax at a time when the national defense effort, spurred by the war in Korea, calls for the attaining of ever higher standards in medical education and the production not only of the most competent doctors but increasing numbers of doctors as well. Medical schools the nation over are already practicing rigid economies to keep afloat and to meet the obligations of the hour, yet no dean of a medical school wishes to court the prospect of returning to the pre-Flexner days in medical education.

No financial wizard has arrived on the scene with an easy answer to the schools' problem; it is doubtful that there is one. A certain amount of reflection, however, will show that there are at least three possible approaches to a solution:

1. Medical schools in financial distress can retrench. By continuing to snip away at the teaching program, by reducing equipment and the cost of instruction, it may be possible to bring expenses within hailing distance of current resources. That this would have a devastating effect on the caliber of instruction and thus on the competence of the next generation of medical graduates, no informed person denies. At best, this approach—the idea of economizing through the evisceration of the teaching program—represents a foolish saving in money. It is an utter extravagance as far as the nation's health is concerned. In the long run we would all pay dearly for such budget-slashing in terms of health standards and the demands of national defense. There

is no sense in spending needlessly more than one earns, but there is as little sense in turning out a second-rate product, especially when the well-being of the nation is at stake. American medicine would not be supreme in the world today had our medical schools not viewed, as their primary objective, the production of competent doctors thoroughly trained in the complexities of modern chemical, physical and biological science.

2. A second possibility, a far more constructive one than blind budget-cutting, is for the medical schools to band together behind such an organization as the National Fund for Medical Education, a voluntary effort which is seeking its sustenance from a wide variety of interests in the American community. The Fund represents a fresh and inspiring approach to a solution of the schools' financial problem. The deans have backed it wholeheartedly. Many of them have given much time and effort to this organization which, in the long run, may provide an original formula for the solution of the financial problems of higher education. In two years of organizational work, the Fund has collected something over $1,000,000, more than half of this coming from the American Medical Association's American Medical Education Foundation. The Association is to be congratulated on its foresighted and constructive efforts in this direction.

3. A third method, and, we think, the most imperative at the moment, is to seek Federal aid to help to meet a mounting disaster before it is too late to take successful remedial action. The deans, therefore, are backing S. 337, a bill that has been reported favorably by unanimous vote by the Senate's Committee on Labor and Public Welfare. It has the endorsement of the leaders of both major political parties. From medicine's viewpoint, S. 337 is a good bill and it deserves the support of those who are interested in maintaining the standards of medical education in the United States. This bill is written as a *temporary* measure to help the schools through the present critical period. As hopeful as the National Fund may make us feel about the future of medical education, the Fund probably cannot stimulate more than a trickle of funds for the next year or two, or perhaps for the next five years. The Fund's objective for the first year is $5,000,000, yet the Reed report estimates that the present needs of the seventy-nine schools run to something like $40,000,000 annually in excess of their currently available funds; about $30,000,000 represents money needed by the private schools. Without additional support of this order of magnitude, the medical schools cannot do the job being demanded of them today.

It goes without saying that the strength and independence of the medical school lies in maintaining a balance between their own unrestricted revenue, principally from private sources, and funds made available through the taxing agencies of government. It would seem, then, if one views the present problem objectively, that the soundest approach for the medical deans lies in the continued and vigorous support of the National Fund—as the best long-run solution—plus equally vigorous appeal for temporary Federal assistance. We must continue to practice all sensible economies meanwhile, but we must be ever mindful that our job is to pro-

duce doctors worthy of the name, not just individuals who carry the identification "M.D." With this approach, we shall be able to weather severe financial storms, which may otherwise wreck our ship, and to sail on to new horizons in medicine.

—G. P. B.

Public Relations—A Major Responsibility

The remarkable record of medicine in the past twenty-five years has excited great public interest. This situation has been made possible by the increased availability and utilization of media for mass public education such as radio, magazines, newspapers, and now, television. Medicine, by virtue of the fact that it concerns itself with the individual person, is more amenable than most subjects to dramatization, and this factor has been utilized by individuals who are in journalism, radio, and other professions. The public, therefore, is not only aware of advances and techniques of medical diagnosis and treatment but they have also, in a large measure, come to personalize these matters. This, of course, leads to a desire for further knowledge about the opportunities for more and better health services for themselves and their communities. In other words, in this country today we find a general public with intense interest in matters medical. Our problem is to see that these interests are channeled in realistic and productive directions.

Since it is almost axiomatic that intelligent action depends upon a knowledge of the facts, it would seem that the responsibility and obligation of getting to the public accurate and understandable information concerning medicine and medical education is greater now than ever before.

Continuing and increasing financial support for medical education and the many other services that the modern medical center renders to the public will depend mainly on our ability to inform the public of our problems. The consumer of medical care demands more of the medical schools, and yet he must understand what these demands require of the school. The last fifty years have seen a progressive broadening of the financial base of medical education. If this base is to be broadened without being weakened, more people must be informed of the aspirations and needs, as well as the benefits, of strong and productive schools of medicine.

If we do not recognize this fundamental and basic responsibility to inform the public, we may one day find that the great mass interest in medicine will be channeled toward unrealistic objectives chosen from emotional, political and other illogical points of view.

We should remember that if unenlightened public opinion forces unrealistic educational situations on us, then our concern about the quality of our entering student and many other exceedingly important phases of our activities will become almost purposeless. We should recognize the exceeding importance of this responsibility by the development of planned programs implemented by other than voluntary personnel.

—F. D. M.

TV Channels for Educational Purposes

"Medical Education and Television," the lead article in this issue, indicates that TV can have vital and important effects upon the future of medical teaching. Nevertheless, channels must be available for use by the schools when detailed educational programs have been worked out.

The hearings scheduled for July 9 before the Federal Communications Commission will have the greatest effect on the future of educational television. Witnesses will appear representing both commercial broadcasters and those who wish a certain number of television channels allocated for strictly non-commercial purposes. Among those seeking favorable FCC ruling for educational TV are the National Association of Educational Broadcasters, the American Council on Education, the National Education As-

sociation, the American Medical Association, and the National Association of State Universities.

If sufficient space is obtained among the television channels for educational purposes, time can be alloted for medical civil defense, health education, and other medical programs for public information. In the event the medical profession ever needs quantities of public telecast time or, for the sake of privacy, perhaps even its own channels, the groundwork for this program should best begin at the time channel allocations will be decided, namely, in the immediate future.

For the present, and tentatively, the FCC has allocated 209 channels for noncommercial, educational purposes. However, commercial interests have already made and will continue to make, strong challenges to these allocations. Senator William Benton, on the floor of the Senate, made note of this condition while urging that channeling be held up until a proper study of needs has been made. Senator Benton also pointed out the possibility of establishing subscription television and the need to reserve channels for this use. Subscription TV holds excellent promise of becoming a self-supporting method of postgraduate medical education, the participating physicians paying for its use. This aspect of the problem will be of great interest to the FCC.

The University of Pennsylvania has pioneered in the use of medical television, beginning its first demonstrations in the medium four years ago. The new Alumni Hall at the University will be equipped with television facilities for medical teaching. Among the general education projects involving TV, the most complex one now being contemplated is the proposal of the regents of the state of New York to establish a ten station network to aid primary and secondary school education.

Careful consideration of the current situation indicates that those who believe provision of channels for educational television is important should make their opinions known to the FCC and their congressional representatives.

Medical Film Institute

Card Catalog Services

During the summer the Medical Film Institute will initiate medical motion picture library card catalog services of two kinds; one will be a card file service of titles and subjects, the other a card service of Medical Film Institute reviews. The library card catalog service is designed to supply the essential non-qualitative information required for general library information; these cards will be compiled in collaboration with the Committee on Medical Motion Pictures of the American Medical Association and the Committee on Medical Motion Picture Films of the American College of Surgeons. The review service is designed to make available, in easy reference form, the film evaluations of the Medical Film Institute expert panels. Announcements of the initiation of these services will be circulated to medical libraries and other interested central sources of information on film literature, as soon as the services are formally put into operation.

New Reviews Available

Two new sets of film reviews are now available from the Medical Film Institute, 2 East 103rd Street, New York 29, New York. One set deals with films on psychiatry, psychology and mental health; the other describes miscellaneous medical films including three films on aphasia and two on the heart, plus five others. The reviews are of the same high standard as the others which the Medical Film Institute has done, and are very useful in evaluating both the film and its use in conference or classroom. Mention should also be made here of the reviews the Institute has made available of films relating to atomic medicine. More information about these is given elsewhere in this issue. (p. 265)

College News

Albany Medical College

Dr. *Frederick H. Hesser* has been appointed associate professor of neurology. Dr. Hesser was formerly assistant professor of neurology at the State University of Iowa College of Medicine. He has also been appointed attending neurologist at Albany Hospital and will be in charge of the brain wave recording laboratory at the hospital.

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Boston University

Plans for a new Medical Center to offer expanded facilities for research and teaching were announced by Dean *James M. Faulkner* at the annual Alumni Banquet on May 4. The new project will be located in the same area as the University's School of Medicine. It will be operated jointly with the Massachusetts Memorial Hospitals.

Special tribute was paid to Dr. *Chester S. Keefer,* on his 10th anniversary as Wade professor of medicine, and Director of the Evans Memorial Department for Clinical Research and Preventive Medicine. Dr. Keefer was presented with a first edition of James Thatcher's "American Medical Biography," printed in 1828, and a baseball autographed by his favorite club, the Boston Red Sox. Other speakers at the banquet included President *Harold C. Case* and Chancellor *Daniel L. Marsh.*

During the evening, Dr. Faulkner also paid tribute to Chancellor Marsh. He noted that during the latter's presidency, since 1926, the school of medicine had increased its full time faculty from 10 to 94, its part time faculty from 114 to 271, and its student body from 221 to 271. Dr. Faulkner also reported that since 1941 total income for the school has increased from $9,600 to $324,000.

Dr. *Clarence Cook Little,* leader in biological research and specialist in cancer experiments, received the honorary degree of Doctor of Science from President Harold C. Case at commencement exercises held on June 4. The celebration also marked the inauguration of Dr. Case as the University's fifth president replacing Dr. Marsh, who has become the first chancellor.

New appointments in the school of medicine include the naming of four new professors. These are Dr. *Harold Arthur Carnes,* professor of dental medicine; Dr. *John W. Streider,* professor of clinical surgery; and Dr. *Ralph Adams,* professor of clinical surgery. Dr. *Maurice Fremont-Smith* was named clinical professor of preventive medicine.

Seven new associate professors were appointed. Two, Drs. *Harold L. Leland* and *David B. Stearns,* were made associate professors of medicine. Dr. *Stanley L. Robbins* was appointed associate professor of pathology.

Drs. *William Franklin, William E. Huckabee, Franklin Epstein, Charles T. Marrow, Robert A. Driscoll* and *Walter W. Byrnes* have been granted armed services leaves of absence.

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Bowman Gray

Dr. *C. C. Carpenter,* dean of the school of medicine and professor of pathology, has, on his own request, been relieved of his duties as director of the hospital. On Dr. Carpenter's recommendation, Dr. *Frank R. Lock,* professor of obstetrics and gynecology, was elected director of the hospital and associate dean of the medical school.

Sixty-one students were candidates for degrees in the commencement exercises held on June 10 and 11, when the 10th anniversary of the establishment of the school was observed. Two M.S. degrees were also conferred. Special tribute was paid at the time to members of the Gray family, whose gifts made the school possible.

Dr. *C. Hampton Mauzy,* associate professor of obstetrics and gynecology, was

chosen president-elect of the North Carolina Obstetrics and Gynecology Society at a recent meeting of the society.

Dr. *Parker R. Beamer,* professor of microbiology and immunology, was awarded the Moore County Award during the annual meeting of the Medical Society of the State of North Carolina, for being the author of the best paper presented in the preceding year's meeting. His subject was "Studies on Experimental Leptospirosis (Weil's Disease)".

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Chicago Medical School

Dr. *Giano Magri* of Ferrara, Italy, has arrived in Chicago to undertake studies of rheumatic heart disease in children. Dr. Magri, recipient of a Morris Fishbein Jr. fellowship, will work under Dr. *Aldo A. Luisada,* program director of cardiology and assistant professor of medicine.

Four subsidiary scholarships of $10,000 each have been received from the David, Josephine and Winfield Baird Foundation, Inc., of New York City.

Dr. *Louis H. Turek* has been appointed clinical assistant in medicine.

Dr. *Harry G. Rolnick,* chairman of the department of urology, has returned from a trip to Paris, Rome and Israel.

The affiliation between the medical school and Mount Sinai Hospital is entering its 5th year. The affiliation was considered unique when it was consummated, in that the hospital is a separate voluntary institution and the medical school did not have a teaching hospital. According to the terms of the affiliation, all patients, private and non-paying, are made available for teaching provided no health hazards are involved for the patients. The school employs and pays the full time doctors assigned to the hospital and certain special technical and administrative personnel. The hospital approves these appointments.

Five subsidiary scholarships of $10,000 each have been given to the school for the five year period 1950-54 by Isadore Leviton, Brooklyn manufacturer.

Highlights of Alumni Week, June 18 to 23, included a display of scientific exhibits illustrating current research work being done by the faculty. On the evening of June 22, President *John J. Sheinin* delivered a talk on "The State of the School" to a group of alumni and trustees. June 23 climaxed the week with the 37th Commencement Exercises.

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University of California (Berkeley)

Dr. *Kenneth S. Pitzer* resigned as director of research of the Atomic Energy Commission, effective May 18, to return to the University as dean of the College of Chemistry. Dr. Pitzer has been serving with the Commission on a two and a half year leave.

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University of California at Los Angeles

The new medical school will admit its first class of 25 freshman students on September 19. Teaching affiliations have been made with the 750 bed Harbor General Hospital in Torrance and the 1,500 bed U. S. Naval Hospital at Long Beach. Dr. *Stafford L. Warren,* former professor of radiology at the University of Rochester was appointed dean of the school in 1947. Assistant dean is Dr. *Norman Nelson,* former medical director of the Los Angeles City Health Department. A staff of 22 full time faculty and 98 clinical appointees has been made. This staff has been conducting research, organizing curricula, and working on plans for the $15,500,000 Medical Center. While physical facilities for the school have not been completed, work has progressed to the point where students can be admitted and allowed to continue in a normal four year program.

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University of California—San Francisco

Dr. *M. Kusaka,* director of the Okayama National Hospital in Japan and Dr. *H. Yamashita,* chief radiologist, National Hospital in Tokyo, visited the school of medicine recently. Also visiting the school was Dr. *Antonio C. Ordonez* of Quezon City, P. I., who inspected the cardiovascular research programs being conducted on campus, and Dr. *Derrick*

Tomlinson, Auckland, New Zealand, who was particularly interested in gastroenterology.

Dr. *Robert Thomas Legge,* professor of hygiene emeritus and former University physician on the Berkeley campus, received the William S. Knudsen Award, which was presented to him at the recent 36th annual meeting of the American Association of Industrial Physicians and Surgeons.

Dr. *Miriam E. Simpson,* professor of anatomy on the Berkeley campus, has returned from France where she lectured before the Faculty of Medicine of Marseille and the Surgical Association of the Mediterranean area.

Dr. *Francis S. Smyth,* dean of the school of medicine, writing in a current issue of "Future M.D.," pointed out that private medical schools are now in need of some system of regular financial support from the nation's doctors. He said that the recent fund established by the American Medical Association was a start, but fell far short of the need, and urged that perhaps a system could be adopted whereby medical school graduates would underwrite fixed yearly sums for a period of ten years after graduation.

"The Illustrations from Works of Andreas Vesalius" a work co-authored by Dr. *John B. de D. M. Saunders,* professor of anatomy at California, and Dr. *Charles O'Malley,* department of history at Stanford, has been selected as one of the 50 best books of 1950 by the American Institute of Graphic Arts.

Dr. *Albert J. Houston,* clinical professor of otorhinolaryngology emeritus, died in Beverly Hills on March 28. Dr. Houston retired in 1937 after a long and active career.

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University of Chicago

Dr. *Robert G. Bloch,* professor of medicine in the section on tuberculosis and diseases of the chest, has resigned to accept a position as director of the division of diseases of the chest at Montefiore Hospital, New York City.

The medical school has received a gift of $100,000 to establish a new cancer research laboratory from Ben May, Mobile, Alabama lumberman.

Dr. *James B. Herrick,* professor emeritus of medicine at the school of medicine and the University of Illinois College of Medicine, received the Gold Heart Award of the American Heart Association at the Association's annual dinner on June 9.

Dr. *Lowell T. Coggeshall* has been appointed chairman of the medical committee of the Research and Development Board of the Department of Defense. He succeeds Dr. *Francis G. Blake* who resigned to accept the post as civilian director of medical research.

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University of Colorado

The school of nursing has announced a six weeks course to be given to senior nursing students called "Rural Community and Hospital Nursing." The course will be given at Weld County Hospital and nearby county health organizations. It is intended to provide additional nurses in Colorado's rural communities.

Dr. *Wilhelm Richard Frisell,* formerly instructor in physiological chemistry, Johns Hopkins University School of Medicine, has been appointed assistant professor of biochemistry, effective July 1.

A grant of $264,912 has been received from the Commonwealth Fund of New York for the purpose of improving the education of doctors for general practice and to provide better care for the indigent of Denver. The funds will provide for the establishment of a general medical clinic at Denver General Hospital where one doctor will be in charge of each case, being responsible for all referrals, including appointments with specialists and special laboratory work. The doctor in charge will have available the services of social workers and will be able to make home visits when he thinks it necessary. To bring the plan into operation, the basement and ground floor of the east wing of the hospital will be remodeled in the next few months.

Columbia University

The Francis Delafield Hospital at the Columbia Presbyterian Medical Center has established a service to diagnose and treat cancer patients referred to it by the patients' doctors. The hospital is already equipped with the newest diagnostic devices, as well as a 2,000,000 volt x-ray machine. Plans are under way for installing a 26,000,000 volt betatron. Funds for the hospital were provided by the city of New York and the American Cancer Society.

Dr. *Ralph H. Boots,* Chairman of the Edward Daniels Faulkner arthritis clinic, has been named supervisor of a new clinic at the House of the Holy Comforter. The clinic was established to appraise the degree to which long bedridden arthritis patients can be rehabilitated by a combination of adrenal cortical hormones and rigorous conventional therapy.

The College of Physicians and Surgeons, together with the Community Service Society and the Montefiore Hospital, is sponsoring a new project known as the Family Health Maintenance Demonstration. The first twenty families who have agreed to cooperate with the experiment have already submitted to their medical and family evaluations. The project will combine the forces of clinical medicine, social work, psychology, psychiatry and education, in an effort to keep these families well, rather than to wait until illness strikes.

The Pediatric Cerebral Palsy Clinic of Presbyterian Hospital has announced a new research clinic in cooperation with the school of oral and dental surgery. The new clinic will attempt to improve on the techniques of dental care for cerebral palsied children.

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Cornell University

Plans have been developed at New York Hospital for the care of 3,000 casualties in the event of atomic attack. This statement was made by John Hay Whitney, president of the board of governors, in connection with the hospital's annual report. Other details of the report indicated that more than 85% of the 79,615 patients treated in the past year were treated for less than cost. The average cost for keeping a ward patient was $21.25 daily compared to an average payment of $10.51. Outpatient costs averaged $4.07 a visit, compared with $2.44 received. The city of New York contributed $8 daily for its patients, contributing a total of $1,257,162 during the year. The deficit had been kept to $280,361 by gifts from friends, the United Hospital Fund, and the Greater New York Fund.

A Cornell Parents Committee, composed of 25 non-alumni who have children attending the University, has been formed to aid in meeting the University's financial needs. Will W. White, vice president of Esso Export Corporation, has been named chairman. The group will seek support from other parents who had not attended Cornell, but who have sons and daughters taking courses in the endowed divisions of the University.

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Duke University

Dr. *Norman F. Conant,* professor of mycology, has returned from delivering a two month series of lectures at leading Scandinavian medical centers. While he was in Sweden, Dr. Conant conducted the doctoral examination for Ake Norden, a Swedish Rockefeller Fellow, who had completed 18 months' training at Duke toward his M.D. degree. Dr. Conant is director and founder of the Duke Fungus Registry.

The school of medicine's spring medical postgraduate course was held from June 18 to 21. Lectures and seminars were conducted dealing with tuberculosis, cardiovascular diseases, urinary tract infections, blood diseases, diarrhea, psychiatry, isotopes and neurology. Certificates of attendance were awarded.

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Emory University

A postgraduate medical clinic was held in connection with the University's homecoming celebration, May 30-31 and June

1. Guest speakers were Dr. *A. Neal Owens,* professor of clinical surgery at Tulane; Dr. *Charles F. Wilkinson Jr.,* chairman of the department of medicine at Postgraduate Medical School, New York University-Bellevue Medical Center; and Dr. *Alfred Wilhelmi,* chairman of the department of biochemistry at Emory. Subjects covered in the lectures and in panels and demonstrations included the use of dextran in treatment of shock, newer treatments of burns, use of new analgesics in medicine, use of ACTH and cortisone, and the latest developments in diagnosis and treatment of heart disease high blood pressure, and cancer.

Dr. *Paul Beeson,* professor of medicine, headed a 12 member United States Medical Mission which left for Japan to visit all 46 medical schools in that country. Purpose of the mission was to review Japanese medical teaching.

Dr. *George T. Lewis,* professor of biochemistry, has received a grant of $8,694 from the Public Health Service for a study of the relationship between endocrine secretions and diseases of mouth tissues.

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Georgetown University

Dr. *Samuel A. Levine,* clinical professor of medicine of Harvard Medical School, spent the week of April 1-7 at Georgetown acting as director of educational activities of the department of medicine in place of Dr. *Harold Jeghers,* regular professor of medicine. While there, Dr. Levine conducted three conferences open to the medical profession. He also delivered a formal lecture on the subject "Myth of Strict Bed Rest in the Treatment of Heart Disease."

Dr. *Alfred F. Bliss,* associate professor of physiology, died May 16 at his home after a brief illness. He was 36 years old. A member of the faculty at Georgetown since last September, Dr. Bliss was conducting research in the field of vision.

Dr. *William Sinclair Bowen* died May 18 at his home. He was 84 years old. Dr. Bowen had taught obstetrics at Georgetown and George Washington medical schools for thirty years.

Hahnemann Medical College

Dr. *Charles L. Brown,* dean, received the Strittmatter Award for 1951 from the Philadelphia County Medical Society. The award is presented each year to the physician "who has made the most valuable contribution to the healing arts or who has contributed extraordinary meritorious service to the medical profession." In his speech of acceptance, Dr. Brown's topic was "The Impact of Medical Education and Research on the Practice of Medicine."

Four grants have recently been made to the school. The department of bacteriology has received $4,860 from the U. S. Public Health Service for studies on penicillin resistant staphylococci. E. R. Squibb & Sons has granted $1,500 to the department of medicine for the study of pain relieving drugs in arthritis. The department of medicine has also received $2,500 from the Commercial Solvents' Corporation for a study of glucuronic acid in arthritis, and a grant of $3,000 from Wyeth Inc. for clinical research.

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Harvard Medical School

A five story, $2,400,000 research building for the study of afflictions and processes inherent in aging was dedicated the week of May 19 at the Massachusetts General Hospital. The building provides 35,000 square feet of laboratory floor space and is air conditioned. The new structure, according to Dr. *Dean A. Clark,* director of the hospital, is the first step in a 10 year program to provide home care to needy families in the surrounding areas of Boston's West End. The program will also be used as a training ground for medical school students.

Professor *Robert B. Woodward,* Dupont Research Professor for 1949-50, has announced the first total synthesis of a steroid. While Dr. Woodward was careful to point out that he had not synthesized cortisone or any other medical substance, the process for converting one steroid into another is so well worked out, that now it is believed that the synthesis of natural steroids may well be accomplished in the near future.

Drs. *Albert E. Renold, T. B. Quigley, Harrison E. Kennard,* and *George W. Thorn,* have been conducting experiments on the number of eosinophil cells circulating in the blood. Purpose of the experiments is to devise a simple test to screen persons for the ability to take emotional stress and strain. Members of the University varsity and combination crews were subjects for the tests.

Dr. *Frederick Lafayette Jack,* former aural surgeon-in-chief of the Massachusetts Eye and Ear Infirmary, died May 4 at the age of 90. He was the second oldest living graduate of the Harvard Medical School. Dr. Jack received his degree in 1884.

Annual alumni day exercises were held on May 25. The exercises were featured by visits to operations and hospital rounds in the morning followed in the afternoon by symposia on medicine and surgery. On May 26 the school observed class day exercises, awarding prizes to four outstanding students. Dr. *James Howard Means,* Jackson professor of clinical medicine, Dr. *James M. Dunning,* dean of the school of dental medicine, and Dr. *George Packer Berry,* dean of the medical school, all spoke at the exercises.

Dr. *Frederic Thomas Lewis,* James Stillman professor of comparative anatomy emeritus, died June 2 at his home. Dr. Lewis was 76 years old.

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Howard University

Dr. *Henry Honeyman Hazen,* former professor of dermatology and syphilology at Howard and Georgetown medical schools, died May 2 at his home. He was 71. In 1944 Dr. Hazen was given an honorary D.Sc. from Howard.

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University of Illinois

Representatives of 33 hospitals in the state accepted the invitation of the college of medicine to participate in Hospital Intern Day. The representatives were assigned space at the college where they were available for interview with interested third year students. Students were excused from classes in order to discuss the merits and virtues of the various hospitals from the standpoint of internships.

Two grants have been received from Chicago firms to support research investigations. The Lakeland Foundation has given $7,000 for the study of a cancer diagnostic test. The Abbott Laboratories have contributed $1,000 for an investigation of the effects of amines on high blood pressure in experimental cases.

The American Association of Plastic Surgeons met on June 8 at the college of medicine. The program was arranged by Dr. *Paul W. Greeley,* professor of plastic surgery.

An intensive summer course for bacteriologists was begun June 25 under the direction of Dr. *J. E. Kempf,* associate professor of bacteriology. The course will continue until August 18, offering laboratory experience in basic techniques in virology. Full graduate credit will be given.

Dr. *Herbert C. Batson* has been appointed professor of biostatistics. He will be concerned with work in biometrics and design of experiments.

Dr. *Percival Bailey* has been appointed director of the Illinois Neuropsychiatric Institute. Dr. Bailey will continue to serve in his joint position as distinguished professor of neurology and neurological surgery.

Dr. *Harry F. Dowling* has been appointed professor and head of the department of internal medicine. Dr. Dowling succeeds Dr. *Robert W. Keeton* who will retire from active service at the end of the current academic year.

The First Annual Clinic Day for Medical Alumni was held on May 21. Dr. *Michael H. Streicher* acted as moderator for the morning conferences. In the afternoon, Dr. *Granville A. Bennett* delivered a lecture on "Differential Diagnosis of Certain Neoplasms of Bone." A series of campus tours was also arranged.

Dr. *Robert H. Herbst,* clinical professor of urology, died May 15 at his home. Dr. Herbst was 73. He was appointed clinical professor of surgery at Rush Medical College in 1929.

Dr. *Louis Schulz* died May 19 at his home in River Forest. Dr. Schulz was 84. He was professor of dental surgery and

pathology at the college of medicine from 1919 until 1932, when he became professor emeritus.

An affiliation has been arranged between the college of medicine and Grant Hospital. The hospital has 236 beds plus 45 bassinets and operates an outpatient clinic which had 17,720 patient visits during 1949.

Dr. *M. I. Grossman,* associate professor of clinical science, reported for military service on June 4 at Fort Sam Houston, Texas.

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Indiana University

More than 4,000 miles of telephone lines were used to connect 22 county medical meetings in the medical center's recent hour long heart program. Talks from the Mayo Clinic by Dr. *Arlie R. Barnes,* former president of the American Heart Association, and Dr. *Edgar V. Allen,* vice chairman of the Medical Advisory Board for High Blood Pressure, were piped in to listeners. Dr. *Howard B. Sprague,* president of the American Heart Association, and Dr. *Samuel A. Levine* spoke from Boston. Dr. *George E. Bond,* president of the Indiana Heart Foundation, acted as moderator.

The admissions committee has announced acceptance of a class of 150 freshman students, the fourth such class accepted under the expanded program instituted in 1948, for the school of medicine. The students will report in the fall to the Bloomington campus.

The Student Union, food service and housing building for the medical center campus is already under construction. The $4,000,000, eight story building will, when completed, provide food service for patients, staff and students, as well as for patients and staff of the new LaRue D. Carter Hospital and the staff of the State Board of Health.

Dr. *Jacob K. Berman,* associate professor of surgery, has had a volume, "Principles and Practice of Surgery," recently published by C. V. Mosby Company of Saint Louis.

The 31st annual postgraduate Anatomical and Clinical Course in Otorhinolaryngology was held on the medical center campus from April 2 through April 14. Thirty-two specialists were in attendance for the program of lectures and demonstrations in charge of Dr. *C. H. McCaskey* and Dr. *E. N. Kime.*

Governor Henry F. Schricker has named a five member committee to investigate the possibility of enlarging the school of medicine. Dr. *Merrill S. Davis,* president of the medical school alumni organization, was named as chairman. Other members of the committee include V. M. Simmons, Fort Wayne publisher; Dr. O. P. Kretzmann, president of Valparaiso University; C. F. Eveleigh, executive vice president of Eli Lilly & Company; and State Senator Leo J. Stemle, attorney. The committee will report to the 1953 session of the General Assembly.

Dr. *Herbert S. Gaskill,* professor of psychiatry, has returned from a month's assignment in Japan as a consultant on psychiatry with the Army Medical Corps.

Dr. *William C. Menninger* gave the first of three lectures presented by the section on psychiatry on April 12. Dr. *O. Spurgeon English* was the speaker on April 25, and a talk by Dr. *Robert P. Knight* on May 10 concluded the series.

The 4th annual alumni day for graduates of the school of medicine was held on May 9. Dr. *Merill S. Davis,* president of the alumni association, was in charge of program arrangements.

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Jefferson Medical College

The college has announced that its 127th Annual Session (1951-52) will be lengthened by approximately 5 weeks for freshman and 2 weeks for upper classmen.

The Alumni Annual Giving Fund reports a total of over $107,000 given by graduates of the college this school year for the support of preclinical teaching salaries. One-third of a million dollars has been contributed by alumni in the past three years for similar purposes.

Dr. *Theodore R. Fetter* has been appointed Nathan Lewis Hatfield professor of urology and head of the department to

succeed Dr. *David M. Davis,* now emeritus professor of urology.

Dr. *Vaughan Clifton Garner,* has been appointed clinical professor of dermatology.

On Alumni Day the portrait of past Dean *William Harvey Perkins* was presented to the college by his classmates of 1917.

At the 127th Annual Commencement, medical degrees were conferred on 161 graduates. Honorary degrees presented were: Litt.D. to Dr. *Milton S. Eisenhower,* president of the Pennsylvania State College; LL.D. to *Percival E. Foerderer,* Philadelphia civic leader and chairman of the college's Board of Trustees; LL.D. to *John D. Diemand,* president of insurance companies and civic leader in health activities; Sc.D. to Dr. *James R. Martin,* professor of orthopedic surgery emeritus.

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Johns Hopkins University

Dr. *Paul A. Lembcke* has been appointed associate professor of public health administration. Dr. Lembcke is presently conducting a graduate training program of hospital administration in conjunction with Dr. *Edwin L. Crosby.* For the past five years he has been associate director of the Council of Rochester (New York) Hospitals.

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University of Kansas

An original early American portrait of Dr. Ephriam McDowell, the first ovariotomist, has been acquired by the Clendening Library of Medical History. The original oil was done by William Davenport of Danville, Kentucky, in 1829.

The Speech Correction Center has been chosen by the Shawnee-Mission Co-Operette Club for its sponsorship project for the current year. The club is raising funds for the purchase of kymograph equipment.

The hearing and speech department has received a grant from the Carolyn Doughty Fund of the Women's City Club of Kansas City, Missouri, for the purchase and assembly of equipment by which objective audimetry can be accomplished through psychogalvanic skin resistance technique.

Dr. *E. V. Thiehoff,* chairman of the department of public health and preventive medicine, has accepted appointment to the editorial staff of "Excerpta Medica" as editor of medical microbiology and hygiene. The "Excerpta Medica" seeks to abstract and publish articles from every available medical journal in the world. Its headquarters are in Amsterdam, The Netherlands.

On April 20 the State Board of Regents adopted a new fee schedule for the state colleges under its jurisdiction. By this schedule, tuition in the medical school will be raised to $450 for resident and $900 for non-resident students annually. This represents a 50% rise in rates.

Eighty-four Doctor of Medicine degrees were awarded at commencement exercises for the University held on June 4.

The department of oncology has received a renewal of its research contract from the Atomic Energy Commission for the amount of $39,400.

Dr. *Cora Downs,* professor of bacteriology, has received an additional $4,300 from the Federal Security Agency to continue her work on tularemia.

Dr. *William C. Young,* professor of anatomy, has received a grant of $11,000 from the U. S. Public Health Service for a fifth year's work on endocrinology of reproductive behavior and gestation in guinea pigs.

Dr. *William Valk,* professor of surgery, has received a grant of $7,587 from the Federal Security Agency for kidney studies.

The Surgeon General, upon the recommendation of the National Advisory Heart Council, has approved a grant of $6,534 for the section on urology. The research will involve use of adrenocorticotropic hormone, cortisone, and related compounds and their effects on renal physiology.

Dean *Franklin D. Murphy* spoke to students of the University of Colorado School of Medicine on April 25. Dean Murphy also delivered the commencement addresses at Kansas State Teacher's Col-

lege on May 24 and at Washington University School of Medicine on June 5.

Dr. *Paul W. Schafer,* professor of surgery, delivered the Arthur Hawley Sanford lecture at the Minnesota State Medical Association on May 1. His topic was "Pathology of the Acute Abdomen."

Dr. *Mahlon Delp,* professor of medicine, and Dr. *William Menninger,* professor of psychiatry and neurology, were among the guest speakers at the recent regional meeting of the American College of Physicians in Wichita.

Dr. *Herbert C. Miller,* chairman of the department of pediatrics, was guest lecturer at recent postgraduate courses conducted at three universities. They were Louisiana State University, Baylor University, and the University of Nebraska.

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University of Louisville

Dr. *Alex Steigman,* professor of child health, has received a grant for $7,700 from the National Foundation for Infantile Paralysis. Dr. Steigman will conduct his research in the new Child Health Laboratory.

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Marquette University

Sister Rose Cordis, of the Maryknoll order, has been selected as the outstanding senior in the medical school. She received the Millmann award at convocation, the first Catholic nun to be so honored in the history of the school.

The annual medical alumnus award was presented April 14 to Dr. *Joseph J. Furlong* for his contribution to the field of internal medicine. Dr. Furlong is a clinical instructor in medicine at Stanford University and practices in San Francisco.

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University of Maryland

The new Psychiatric Unit of the University Hospital, a $2,500,000 project, is nearing completion. A six story building, the first three floors will be used to expand the present child guidance and psychiatric clinics and will provide for an outpatient clinic. The upper floors will provide facilities for 102 inpatients. The unit has been constructed with an eye toward teaching and research, with ample conference rooms, lecture halls, observation and treatment rooms provided. Observation rooms are provided with one-way mirrors and microphones, permitting students to see, hear and record interviews. The unit is expected to be in service early next year.

Grants for research received during the year 1950-51 amounted to $202,669.17.

The Maryland chapter of Alpha Omega Alpha inducted 13 students. Dr. *H. Boyd Wylie,* dean of the medical school, spoke at the semi-annual meeting on "Problems of Medical Education." Dr. *William Dameshek,* professor of clinical medicine, Tufts Medical School, spoke at the annual meeting. His subject was "Blood, the Bone Marrow, and the Spleen."

More than 100 general practitioners attended the 2nd annual postgraduate seminar of the Maryland Academy of General Practice held on May 24 at the University Hospital. Dr. *Laureston L. Keown* and the post graduate committee arranged the program.

The freshman class in the medical school will number 104, representing 13 states, the District of Columbia and Puerto Rico.

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Mayo Foundation for Medical Education and Research

Brigadier General *Sam F. Seeley,* chief of surgical service, Walter Reed General Hospital, delivered a lecture on May 17. General Seeley's topic was "Non-operative Management of Perforated Peptic Ulcer."

Dr. *Ernest F. Gale,* professor and director, Medical Research Council Unit, School of Biochemistry, University of Cambridge, England, spoke May 18. His subject was "Physico-chemical Properties of the Bacterial Cell-wall."

Dr. *Thomas B. Fitzpatrick,* fellow in dermatology, received the prize award in the 1st annual essay contest of the American Dermatological Association. Dr. Fitzpatrick's paper was entitled "The Tyrosinase Reaction as a Specific Index of Malignancy of Pigment-cell Neoplasms

With Particular Reference to Malignant Melanoma."

Three members of the editorial board of the recently published "American Illustrated Medical Dictionary" (Dorland) are associated with the Foundation. They are Dr. *E. C. L. Miller,* now of the Medical College of Virginia; Dr. *Arthur H. Sanford* and Dr. *Richard M. Hewitt.*

Dr. *Wallace T. Partch,* former fellow in medicine, died April 4 in Oakland, California. Dr. Partch had been certified by the American Board of Internal Medicine.

Dr. *J. Gaston Gay,* former fellow in surgery, died January 22 of coronary occlusion. Dr. Gay had been affiliated with Emory medical school as an instructor in surgery.

Dr. *Edward G. Kendall* and Dr. *Philip S. Hench* were awarded the 1st $10,000 Dr. C. C. Criss award and gold medal on June 9. Drs. Kendall and Hench were instrumental in developing and using cortisone in the treatment of rheumatoid arthritis. The prize was presented at the annual meeting of the American Rheumatism Association at Atlantic City.

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College of Medical Evangelists

Dr. *Harold Mozar,* director of the school of tropical medicine and assistant professor of medicine, was awarded one of the 12 traveling fellowships given by the World Health Organization. Dr. Mozar will begin his 2½ month itinerary of European public health and tropical medicine centers on October 1.

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University of Michigan

A gift of $1,500,000 has been presented to the University by the General Motors Corporation for the establishment of the Institute of Industrial Health. The Institute will locate in Ann Arbor.

Drs. *Gordon C. Brown* and *W. W. Ackerman,* department of epidemiology and virus laboratory, school of public health, have been conducting a series of experiments with a new drug, ethionine, which has been successful in stopping the growth of polio virus in laboratory cultures of human tissue. Drs. Brown and Ackerman plan next to conduct extensive experiments with the drug on animals.

Dr. *Frank N. Wilson,* professor of medicine, received the Gold Heart Award of the American Heart Association at the Association's annual dinner on June 9.

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University of Minnesota

Professor *Heinrich Kluver,* University of Chicago, well known investigator in physiological psychology, delivered the Journal Lancet lecture on May 16. Dr. Kluver's topic was "Brain Mechanisms and Behavior."

C. Walton Lillehei, instructor in surgery, received the Theobald Smith Award of the American Association of the Advancement of Science on May 2. The award consists of $1,000 and a bronze medal, made available by funds donated by the Eli Lilly Company. Dr. Lillehei was honored for his work on vegetative endocarditis and on peptic ulcer.

Dr. *Ragnar T. Soderlind,* clinical instructor in surgery, was awarded a prize for his painting, "Los Homos—Acapulco," at the 2nd annual physicians' art exhibit of the Minnesota State Medical Association.

Dr. *Arthur Kirschbaum,* associate professor of anatomy, received the annual medal of the American Cancer Society on April 21. Dr. Kirschbaum leaves the faculty at the end of the academic year to assume his new duties as professor and head of the department of anatomy of the University of Illinois College of Medicine.

A joint dinner meeting of the Minnesota Medical Alumni Association and the Minnesota Medical Foundation was held on April 30. Dr. *J. F. Norman,* president of the Minnesota State Medical Association presided. Dr. *Theodore C. Blegen,* dean of the graduate school, delivered the principal address. His subject was "The University Research Tradition: A Centennial Perspective."

On June 19, Dr. *Isaac Starr* of the University of Pennsylvania School of Medicine, delivered the Duluth Clinic Lecture. His topic was "Fourteen Years Experience with the Ballistocardiograph."

Dr. *Irving S. Wright,* professor of clinical medicine, Cornell University, participated in a continuation course on cardiovascular diseases from May 24-26.

Professor *Ivan De Burgh Daly,* a member of England's Agricultural Research Council, delivered the annual Elias P. Lyon lecture on May 23. Professor Daly spoke on "The Significance of Pulmonary Vasomotor Control." During his visit to the campus, Professor Daly also participated in a number of informal seminars and conferences.

Drs. *R. J. Houle, W. A. Brand, Julius Buscher, F. H. Baumgartner, Franklin C. Anderson,* and *O. W. Roberts* are new members of the Minnesota Medical Foundation.

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University of Mississippi

Dr. Richard A. Bolling has been appointed to a four year term as a member of the Mississippi State Medical Education Board. Dr. Bolling is a graduate of the Southwestern Presbyterian University. He completed his theological studies at the Presbyterian Theological Seminary.

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State University of New York

Dr. *Alvin C. Eurich,* president of the State University, announced recently the formation of a privately financed research foundation, to be administered by members of the State University. According to Dr. Eurich, the formation of the foundation was formally approved by the board of trustees last December after eighteen months of study. With the establishment of the foundation, it will be possible to receive and expend non-state funds in the most efficient manner.

Dr. *Adolph Bonner,* former clinical professor of obstetrics and gynecology at Long Island College of Medicine, died on April 20 at his home in Miami Beach. Dr. Bonner was 77 years old.

Dr. *Perrin H. Long,* formerly professor of preventive medicine, Johns Hopkins University School of Medicine, has been appointed professor and executive director, department of medicine of the college of medicine in Brooklyn.

Ninety-six M.D. degrees were awarded on June 6 at the college of medicine in Brooklyn. Leonard W. Mayo, director of the Association for the Aid of Crippled Children, was the commencement speaker. Dr. *Carlyle F. Jacobsen,* executive dean for medical education of the State University of New York, also spoke. Dr. Jacobsen revealed that ground for the basic sciences building of the proposed new medical center will be broken next summer and that total costs for the entire center will be approximately $40,000,000. This proposed expansion, according to Dr. Jacobsen, will make the medical college the largest in the United States.

During the commencement ceremonies the Alumni Achievement Medallion was awarded to Drs. *John M. Evans,* professor emeritus of ophthalmology, and *A. L. Loomis Bell,* clinical professor of radiology.

On June 5 the board of trustees of the State University approved a new basic medical sciences building for the medical center at Syracuse as well as the one in Brooklyn. The plant in Syracuse will cost an estimated $4,500,000, with the entire medical center when completed to cost approximately $25,000,000. The new building in Brooklyn will be erected for an estimated $10,000,000, being the most substantial portion of the $40,000,000 installation planned there. When completed, the medical center in Brooklyn will be able to accommodate 200 students per medical school class. The center in Syracuse will make it possible to accommodate 100 medical students per class. This will mean that the State University will be training 1200 medical students at a time in both schools.

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New York Medical College

Dr. *Clair E. Folsome,* former vice-president and executive director of research for the Ortho Research Foundation, has been appointed head of the department of obstetrics and gynecology. Dr. Folsome had been, from 1938 to 1940, consultant on obstetrics and gynecology for the Children's Bureau, Department of Labor. He is attending the current French Congress of Gynecology in Paris as a representative of the medical college. While

in Europe he will visit clinics in nine major cities.

About 150 alumni gathered June 5 for the annual alumni day ceremonies. Dr. *S. F. Marshall,* Lahey Clinic, Boston, delivered the principal address.

One hundred and twelve students graduated from the college on June 6 with M.D. degrees. Four graduate degrees were given. Dr. *I. S. Ravdin,* professor of surgery at the University of Pennsylvania, delivered the commencement address. During the ceremonies, Dr. Ravdin was awarded the honorary degree of Doctor of Humane Letters.

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New York University—
Bellevue Medical Center

Sir *Charles Harrington,* director of the National Institute for Medical Research, London, delivered the 48th annual Christian A. Herter lecture on May 7. Sir Charles spoke on "Experimental Research Work in Chemotherapy."

Dr. *Leo M. Davidoff,* clinical professor of neurosurgery, will serve as chairman of a fourteen member mission of the Unitarian Service Committee which will tour Israel for six weeks in September and October. The mission, financed by Point Four program funds, will demonstrate the latest medical techniques. Dr. Davidoff served previously on a 1946 mission to Czechoslovakia and a 1948 mission to Poland and Finland.

Dr. *Oscar Gans,* professor and director of the department of dermatology and syphilology at the University of Frankfort, delivered a special lecture on "Limitations of Histopathological Diagnosis in Skin Diseases" on May 18. Dr. Gans was introduced by Dr. *Marion B. Sulzberger,* chairman of the department of dermatology and syphilology.

The Greenwich Hospital in Greenwich, Connecticut, formally dedicated on May 5, has been affiliated with the Bellevue Medical Center. The hospital was completed at a cost of $4,750,000. It is the 13th to become a member of the medical center's regional hospital plan.

Winthrop Rockefeller, chairman of the medical center's board of trustees, and Dr. *Edward M. Bernecker,* administrator of University Hospital, were hosts on May 16 to 150 women volunteers at a tea given in their honor at the hospital.

Dr. *Edward B. Gresser,* clinical professor of ophthalmology, died recently on his 53rd birthday. Dr. Gresser was the author of many papers in his field and a special consultant on tropical ophthalmology to the Secretary of War during World War II.

More than $100,000 was pledged to the Medical Center Fund at a luncheon benefit held May 21 at the Twenty One Club in New York City. Many notables of stage, screen and radio were present in addition to Admiral William F. Halsey, Police Commissioner Thomas Murphy, Nevil Ford, and Winthrop Rockefeller. William Gaxton, acting as master of ceremonies, conducted an auction of twenty-one gifts which had been donated by various merchants and individuals. These included a pair of diamond earrings that were sold for $2,500, a black fox stole, and similar items. During the luncheon Irving Geist, businessman and philanthropist, received the title of "Benefactor" of the medical center for his work in its behalf. Mr. Geist contributed $25,000 to the fund raised at the luncheon. The Maharajah of Indore, a surprise guest, gave $1,000.

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University of North Carolina

Dr. *William deBerniere MacNider* died May 31 in a Durham hospital. He was 70 years old. Dr. MacNider, a member of the medical school for 51 years, was dean from 1937 to 1940. He had previously been head of the department of pharmacology, but resigned in 1934 to be able to devote more of his time to research. At the time of his death he was Kenan professor of pharmacology, emeritus.

Dr. *Nathan A. Womack* has accepted the position as professor and head of the department of surgery. Dr. Womack will assume his duties in the late summer. Previously he was professor and head of the department of surgery at the University of Iowa.

Northwestern University

A $22,275 grant has been received from the U. S. Air Force to study the effects of atomic radiation on bone marrow. The two year program will be directed by Dr. *Howard L. Alt*, associate professor of medicine, and Dr. *John A. D. Cooper*, assistant professor of medical chemistry.

Dr. *William B. Wartman*, chairman of the department of pathology, has been elected a trustee of the American Board of Pathology.

Dr. *Hans Popper*, associate professor of pathology, has been appointed to the editorial board of "Gastroenterology."

Dr. *Joseph C. Hinsey*, dean of Cornell University Medical School and chairman of the executive council of the Association of American Medical Colleges, was the principal speaker at the annual dinner of the medical school alumni on June 9.

Dr. *Arthur Colwell*, chairman of the department of medicine, spoke at the Northwestern Medical Alumni luncheon held on June 12 in Atlantic City.

Dr. *Richard H. Young*, dean of the medical school, was one of the principal speakers at the 29th annual meeting of the American College Health Association held in Chicago on May 3-5. Seven Northwestern staff members took part in a panel discussion on "Specific Ills Limiting Student Performance" held May 5 at the meeting.

Dr. *George Stevenson*, instructor, has been appointed coordinator of the medical school's cancer teaching program. He succeeds Dr. *William B. Wartman*, chairman of the department of pathology. Dr. Stevenson will correlate teaching of cancer studies in the various departments with new research methods. The program was established and operates with the aid of U. S. Public Health grants. This year's grant amounted to $25,000.

A three day conference on anthropology and psychiatry was held at the University May 17-19. The conference was supported by a $2,000 gift from the Viking Fund of New York and brought together thirty eminent anthropologists, psychologists, sociologists and psychiatrists. Dr. *Ralph Linton*, Sterling professor of anthropology at Yale, and Dr. *R. S. Lyman*, professor and chairman of the department of neuropsychiatry at Duke, were the principal speakers.

As part of its Centennial celebration, the University held a conference June 7-8, on "Problems of an Aging Population." During the meeting, Surgeon General *Leonard A. Scheele*, U. S. Public Health Service, declared that the nation's needs for additional manpower could best be answered by solving the health problems involving older age groups and the handicapped.

Another speaker, Dr. *Erwin Ackerknecht*, professor of the history of medicine, University of Wisconsin, stressed the feelings of rejection which are common among older people, noting that the suicide rate for white North Americans above the age of 55 is twice as high as the rate for younger people.

Professor Philip Hauser, professor of sociology, University of Chicago, strengthened the plea for greater conservation of the nation's human resources by allowing older people an opportunity to maintain their income levels. Professor Hauser sharply attacked present systems of compulsory retirement.

At the annual commencement exercises on June 11, ten prominent persons received honorary degrees. Included on the list was Dr. *Joseph Clarence Hinsey*, dean, Cornell University Medical College. Dr. Hinsey, chairman of the executive council of the Association of American Medical Colleges, is an alumnus of Northwestern. Among others on the list of recipients of honorary degrees were Dr. *Helen Brooke Taussig*, professor of pediatrics, John Hopkins University Medical School; Louise Treadwell Tracy, president of the board of directors of the John Tracy Clinic; and Dr. Percy Lavon Julian, director of research for the Glidden Company, Chicago.

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Ohio State University

Dr. *Richard L. Meiling* resigned as chairman of the Armed Forces Medical Policy Council of the Department of De-

fense, effective June 30, to return to the faculty of the medical school here. He was succeeded by Dr. *W. Randolph Lovelace 2nd,* of the Lovelace Clinic in Albuquerque, New Mexico.

Dr. *Herman A. Hoster,* associate director of the cancer research program, died on May 14 of Hodgkin's Disease. He was 39 years old.

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University of Oregon

An appropriation of $4,000,000 has been voted for the construction of a 14 story, 350 bed teaching hospital by the Oregon State Legislature. The funds are in addition to $2,000,000 now on hand from previous legislation and gifts. The unit will contain 225 adult beds, approximately 50 of which will be allocated for psychiatric patients, providing the first such facilities for direct use of the medical school. The remaining 125 beds will be contained in the new Doernbecher Childrens' Hospital; the present Doernbecher Hospital being utilized to expand outpatient facilities. Construction of the hospital will begin next spring, pending completion of plans and the issuing of bids.

Contingent upon additional appropriation for staff additions, equipment, and some remodeling in the basic science departments, the medical school hopes to be able to expand its freshman classes from the present 75 to a maximum of 90.

More than 215 alumni attended the 36th annual alumni meeting held on campus April 25-27. The program was held concurrently with the Sommer Memorial Lectures at which Dr. *Hans Chiari* of Vienna and Drs. *Richard H. Lyons* and *Cranston W. Holman* of New York were the speakers.

Grants totalling $49,975 have been received by the medical school since February. A grant of $24,000 from the Office of Naval Research covering a two year period will be expended under the direction of Dr. *Archie Tunturi,* assistant professor of anatomy. Another Office of Naval Research grant for $10,000 to cover a two year period will be directed by Dr. *Arthur W. Frisch,* associate professor of bacteriology, who will also direct the expenditure of a $5,275 grant from the National Foundation of Infantile Paralysis. A grant of $4,000 from the Oregon State Elks Association was awarded to the ophthalmology department for work on the program for visually handicapped children. Another grant of $4,000 was made to Dr. *Howard L. Richardson,* assistant professor of pathology, by the American Cancer Society. Lederle Laboratories awarded $2,700 for research under the direction of Dr. *Norman A. David,* head of the department of pharmacology.

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University of Paris

A prize of 2,000,000 francs ($7,500), is being offered by the faculty of the medical school in an international contest to encourage discovery of a cure for leukemia splenomyelogenous. Dr. *Leon Binet,* dean of the school, is chairman of the committee that will evaluate work submitted to the contest. Research which marks substantial progress in the treatment of the disease may be awarded part of the prize money before the whole is awarded. Candidates for the prize, to be known as the "Prix Claude Justin," should submit their papers to Dr. Leon Binet, 12 rue de l'Ecole de Medecine, Paris 6, France.

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University of Pennsylvania

A fund for experimental work in biochemistry has been established by the widow and daughters of the late Dr. *George W. Raiziss,* former professor of chemotherapy in the graduate school of medicine.

Drs. *Vannevar Bush* and *George Widmer Thorn* were guest speakers at the 43rd annual UMA day on April 11. Dr. Thorn is Hershey professor of theory and physic, Harvard medical school.

Dr. *Roy G. Williams,* professor of anatomy, has completed a month long tour of European medical institutions.

Dr. *John M. Buchanan* received the $1,000 Eli Lilly and Company award in biological chemistry at the 119th national meeting of the American Chemical Society in Boston.

Dr. *Louis B. Flexner* has been appointed professor and chairman of the department of anatomy. He will accede to the position upon the resignation of Dr. *William F. Windle,* who has accepted the position of Scientific Director of the Baxter Laboratories of Morton Grove, Illinois. Dr. Flexner was formerly associated with the Carnegie Institute of Washington, D. C.

A plaque memorializing the late Lillian Gittleman's establishment of a cancer research fund in her name was unveiled May 10 in the University hospital. The research fund provides for annual grants to be made to the Harrison department of surgical research of the school of medicine. Dr. *I. S. Ravdin,* John Rhea Barton professor of surgery, is chairman of the department.

The University has received an anonymous gift from a group of donors who are friends and admirers of Dr. Ravdin, for the purchase of equipment to be used in the color television of surgical operations in the University's hospital. The gift was $30,000. The University gave the first demonstration of color television of operations prior to the AMA convention in June, 1949. At the convention, University technicians and surgeons performed operations that were televised for four days as a demonstration of the teaching possibilities of the medium.

The Office of Naval Research has made a grant of $35,500 to the school of dentistry for the study of the destructive effects of atom bomb explosions upon the teeth, gums, and tissues of the mouth. Since technicians for this kind of work are scarce, the school is instituting a course, extending 11 months, for technicians in the technics of histology, photography, gross and microscopic, and the making of lantern slides. No more than six students will be accepted each year. Applicants with courses in chemistry and zoology, and with some college training will be preferred.

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University of Rochester

Dr. *A. G. Hilding Bjurstedt,* associate professor of aviation medicine, Karolinska Institute, Stockholm, has been working on problems of respiration in the department of physiology and vital economics for the last several months as a Rockefeller Foundation Fellow.

Dr. *Alfred Yankauer* has been appointed assistant professor of preventive medicine.

Dr. *Abdel Salah Tawab,* fellow of the Egyptian Government, received a Master's degree from the department of physiology and vital economics and returned home after a year's study.

Drs. *George Plummer* and *Stanley Wright,* formerly affiliated with the department of pediatrics, have been spending a year in Nagasaki and Hiroshima with the Atomic Bomb Casualty Commission.

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Saint Louis University

Dr. *Melvin A. Casberg,* dean of the school of medicine, delivered a paper entitled "The Acute Abdomen" on May 17 at the 3rd annual session of the Missouri Academy of General Practice. The paper was later discussed by Major General *Wallace Graham,* President Truman's personal physician. Dean Casberg also delivered the commencement address at Seattle University on the evening of June 1. On this occasion he spoke on "Relative Values in Professional Education."

Dr. *Daniel Martin Schoemaker,* professor and director emeritus of the department of anatomy, died on May 27 at the age of 83. Dr. Schoemaker retired four years ago, after 43 years on the faculty. He had developed the first set of tables in topographic anatomy.

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Medical College of South Carolina

Funds now available to implement the expansion program at the college amount to over $12,000,000. An additional $1,000,000 is expected to be made available for dormitory construction. First construction contracts have already been let for the new 400 bed teaching hospital with associated nursing school and other facilities. In addition, new laboratory, clinic and library expansion has been made pos-

sible by appropriations from the South Carolina Legislature and a grant from the National Cancer Institute. Final arrangements for the proposed tuberculosis hospital are now virtually complete and land has been acquired for the erection of the new dormitories for students and staff.

The South Carolina Medical Association, at its May 15 meeting, voted $10,000 as a gift to the medical college.

Eleven members of the faculty have received recent promotions: Dr. *William Cyril O'Driscoll* to professor emeritus of anatomy; Dr. *H. S. Pettit* to clinical professor of radiology; Drs. *J. M. Brown* and *E. F. Parker* to associate professor of surgery; Dr. *R. W. Hanckel Jr.* to associate professor of rhinology and otolaryngology; Dr. *J. J. Cleckley,* assistant professor of neuropsychiatry; Dr. *Kelly T. McKee,* assistant professor of medicine; Dr. *Clyde D. Conrad,* assistant professor of pediatrics; Dr. *Henry W. Mayo,* assistant professor of surgery; Dr. *Kenneth M. Lynch Jr.,* assistant professor of urology; and Dr. *Jorgen Weis-Fogh,* assistant professor of anatomy.

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University of South Dakota

Dr. *Donald Slaughter,* dean of the school of medicine, spoke on "The Toxicity of Local Anesthetics" at the meeting of the Federated Societies for Biology and Medicine on April 27. Dr. Slaughter has been appointed a consultant to the postgraduate Army Medical School in Washington, D. C. As part of his duties as consultant, he delivered a lecture on May 18 at the school entitled "The Philosophy of Medical History."

Dr. *V. W. Thompson,* acting chairman of the department of pathology, attended the 3rd annual meeting, held on June 27-28, of the North Central Deans of State Schools of Medicine, accompanying Dean Donald Slaughter.

On June 25, the 31 students who completed their 2nd year studies at the school of medicine began to serve clinical clerkships with doctors located in various communities throughout the state. The clerkships will extend until July 20.

University of Southern California

Dr. *George Dock,* former member of the faculty, died May 30 at the age of 92. Dr. Dock had also been a member of the faculties of the University of Pennsylvania, Texas Medical College, University of Michigan, Tulane University, and Washington University.

Dr. *James N. DeLamater,* professor of medicine and associate dean, received a grant of $21,000 from the Armed Forces Epidemiological Board. The grant, renewable each year for five years, will enable Dr. DeLamater to continue his research on amoeba-caused infections which he began four years ago.

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Stanford University

On September 10 through 14, the school of medicine is offering a series of postgraduate courses for practicing physicians. Each registrant will be allowed to take one morning and one afternoon course, with enrollment in most courses being limited in number. Among the courses being offered are general surgery, surgical anatomy, general medicine, urology for the general practitioner, practical dermatology, diagnosis and treatment of tumors, cardiology, obstetrics and gynecology, psychiatry for practitioners, endocrinology and pediatrics. Further information about applications and fees may be obtained by writing to Office of the Dean, Stanford University School of Medicine, 2398 Sacramento Street, San Francisco 15, California.

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Syracuse University

Dr. *S. I. Griboff* has been announced as the winner of the Schering Award for 1950, a $1,000 prize. Dr. Griboff was a senior medical student at the college of medicine when he submitted his paper, "The Clinical Use of Steroid Hormones in Cancer," in the competition.

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Stritch School of Medicine

Dr. *George O'Brien* has been appointed chairman of the department of medicine, a position left vacant by the death in June, 1950 of Dr. *Italo F. Volini.*

More than $4,000,000 has been raised by the Fulfilment Fund program, the current phase of fund-raising for the construction of a new medical-dental building.

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University of Tennessee

Five visiting professors will join the faculty for the summer quarter, beginning July 9. Dr. *Frederic Russell Steggerda,* a professor at the University of Illinois in Urbana, will act as visiting professor of physiology. Dr. Steggerda served as an instructor in the division of physiology from 1929 to 1933. The other visiting faculty members are: Dr. *James A. Leathem,* bureau of biological research, Rutgers University; Dr. *G. Gordon Robertson,* associate professor of anatomy, Baylor college of Medicine; Dr. *Robert L. Bacon,* associate professor of anatomy, Stanford University; and Dr. *Donald L. Stilwell,* instructor in anatomy, Stanford.

The new anatomy building will be named for Dr. *August Hermameier Wittenborg.* Dr. Wittenborg, who died in August, 1941, was formerly chief of the division of anatomy.

Dr. *Dempsie B. Morrison,* associate professor of chemistry, has been appointed director of the newly established section of clinical chemistry.

Two members of the department of physiology have been awarded research grants by the American Cancer Society. Dr. *R. R. Overman,* associate professor, received $6,500 for a study of the roles played by potassium and sodium in both normal and cancerous cells of the body. Dr. *Donald B. Zilversmit* received $5,500 to investigate the function of the liver in utilization of fats by the body.

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University of Texas—Medical Branch

At a pharmacology seminar on May 31, Dr. *Chauncey Leake,* vice president of the University, was principal speaker, his subject being "Arzneimittelsforschung: Present Status of German Pharmacology."

Thirty-seven radiologists from Texas, Oklahoma and Louisiana have been organized by the department of radiology into "The Guest Lecturers Organization of the Department of Radiology of the University of Texas Medical Branch." Dr. *Walter J. Stork,* Houston, is chairman, Dr. *Carrol F. Crain,* Alice, Texas, is vice-chairman, and Dr. *Joe C. Rude,* chairman of the department, is temporary secretary. A two day session has been planned for October 28-29. Object of the group is stimulation of interest in radiology among Southwest physicians, support of the highest possible standards for radiological work in the area, and stimulation of interest in capable young physicians to prepare for specialization in the field.

Walter J. Meek, Ph.D., emeritus professor of physiology and associate dean of the University of Wisconsin School of Medicine, has accepted a position as lecturer in physiology. Professor Meek will devote a week or two in each spring semester to a series of conferences and demonstrations at the Medical Branch.

Dr. *I. Costero,* professor of neuropathology, Cardiology Institute, Mexico City, has been a guest worker for a month in the Tissue Culture Laboratory, in association with *Charles M. Pomerat,* Ph.D., director. Dr. Costero has been studying the development of brain cells in tissue culture.

The division of plastic surgery, Dr. *T. G. Blocker Jr.,* director, has received a grant of $18,000 from the T. J. Brown and C. A. Lupton Foundation. The grant will provide funds for fellowships and special equipment for a comparative study of the exposure, orthodox, and pressure techniques in handling severe burns.

Bids 50% higher than estimated costs for the construction of the Henry and Rosa Ziegler Memorial Hospital have been rejected. A proposed special hospital and clinic for chest diseases, the unit was to have been constructed with proceeds from a bequest of $325,000 from Mrs. Rosa Ziegler. Plans will be revised to meet changed construction costs.

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University of Utah

With the aid of a grant from the American Cancer Society, Dr. *George*

Sayers, the first to isolate ACTH, has discovered methods of extraction which yield forty times as much of the substance as was obtained by the original method. The Society announced that the new process eliminates 16 of the 20 steps formerly needed. The Society also announced that Dr. Sayers had tested ACTH from human pituitaries and found it as potent as hog ACTH and twice as powerful as that from rats.

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Vanderbilt University

The school of medicine has received a gift of $100,000 from the Werthan Foundation of Nashville to be used to establish the Joe and Morris Werthan chair of experimental medicine. The sole stipulation of the grant is that the man holding the chair must devote his full time to research and teaching.

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University of Virginia
Department of Medicine

Dr. *Lester A. Wilson Jr.* has been appointed assistant professor of obstetrics and gynecology. Dr. Wilson had been an instructor in the same department at Duke.

Edwin W. Pullen, formerly instructor in biology at the University, has been appointed instructor in anatomy, effective September 1.

The 50th anniversary of the founding of the University of Virginia Hospital School of Nursing was celebrated May 23-25.

Two graduates of the department of medicine have been named to top posts in the Red Cross National Blood Program. Major General *David Grant* was named director of the Program and medical director of the American Red Cross, effective May 1. Dr. *Russell Haden* has been named associate director of the Blood Program.

Dr. *Sydney W. Britton,* professor of physiology, has been appointed visiting professor of endocrinology at the University of Nigeria on an appointment made under the terms of the Fulbright Act. Dr. Britton will travel to Africa in February 1952, on leave of absence from Virginia. Upon his return he will retire after 24 years of service.

Dr. *George Cooper Jr.,* associate professor of roentgenology, was awarded the 1951 Medal of the American Cancer Society.

The new Virginia Hearing Foundation is being organized under the direction of Dr. *Fletcher D. Woodward,* professor of otolaryngology, and Dr. *James M. Mullendore,* director of the Speech and Hearing Center at the University. Future plans for the center include a full time traveling clinic to travel throughout the state conducting hearing tests.

Dr. *G. Slaughter Fitz-Hugh* has been appointed chairman of the department of otolaryngology, effective July 1.

Dr. *Douglas E. Bragdon,* assistant professor of anatomy, has received a grant from the Committee on Research in Problems of Sex of the National Research Council, for studies on the corporea lutea of ovoviviparous snakes.

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Washington University

The school of medicine became the first school in the nation to establish a program of teaching assistance with institutions in another country under the United States technical assistance program administered by the Economic Cooperation Administration. Chancellor *Arthur H. Compton* announced on April 21 the signing of a contract between the school of medicine and the ECA to put into action a cooperative teaching program with two medical schools in Bangkok, Thailand. With the aid of ECA funds, staff members of the school will establish residence in Bangkok to teach there, and a number of Thailand doctors will come to the school here for advanced training and study. The program is set up to include an exchange of nurses, medical technicians, and nurse anesthetists, as well as physicians.

The plan, to extend over a two year period, calls for at least six members of both the pre-clinical and clinical staffs to establish residence in Bangkok for the first year, then to return and be replaced by other staff members. In addition to

these one year tours of duty, shorter terms will be arranged for specialists to conduct refresher courses for Thailand doctors.

Dr. *Ben Eiseman,* instructor in surgery, was the first staff member to leave for Thailand. Dr. Eiseman departed on April 21 to teach a six week course in surgery and to make preliminary arrangements to get the exchange program under way. He and Dr. *Robert A. Moore,* dean of the school of medicine, are in charge of the program. Dr. Eiseman had spent three months traveling and teaching short courses in surgery in Thailand at the request of the United States State Department.

Dr. *C. Read Boles,* assistant in clinical pediatrics, was the second staff member to leave. Dr. Boles is now on a three month tour teaching pediatrics.

At present there are seven Thailand doctors studying in the school of medicine and Dr. *Banyen Davibhadhana* left Saint Louis on April 1. He returned to Bangkok, where he is head of the anatomy department at Chulalongkorn Hospital. After two years of study in the department of anatomy he had received his Ph.D. degree in December.

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Wayne University

Dr. *Osborne A. Brines,* professor of pathology, has been elected vice president of the International Society of Clinical Pathology. Dr. Brines will attend the International Congress of Clinical Pathology in London, July 16 to 20 as official delegate of the American Society of Clinical Pathologists.

Dr. *David D. Henry,* president of the University, was elected vice-chairman of the Joint Committee on Educational Television as a representative of the American Council on Education. One of the main tasks of the committee will be concerned with appearances and presentations to the Federal Communications Commission during the coming months.

The McGregor Fund has given the college of medicine a grant of $90,000 to cover the salary of a full-time professor and chairman of the department of psychiatry for a five year period ending June 30, 1956. A second grant of $6,378 was received from the Fund for the establishment of two residency fellowships in psychiatry for the current fiscal year. Award winners are to be selected by Dr. *John M. Dorsey,* chairman of the department of psychiatry.

Dr. *Oscar Balchum,* a 1943 graduate of the college of medicine, has been awarded a $3,500 National Research Council fellowship to test his new device for diagnosing tuberculosis. The device provides previously unavailable data on breathing efficiency.

Dr. *Charles G. Johnston,* chairman of the department of surgery, has been touring Japan as a member of the 12 man medical mission of the Unitarian Service Committee.

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Western Reserve University

Two new hospitals for the care and treatment of the older and chronically ill patient are rapidly nearing completion. The larger one, Cuyahoga County Chronic Hospital, will have an initial capacity of 450 beds, but is so constructed that wings can be added to raise the capacity to 800 beds. The hospital was erected with the aid of an $829,400 Hill-Burton Act grant and will be affiliated with the school of medicine for use as a teaching center. The University, in order to implement its teaching program in this field, is bringing in a specialist in physical medicine to teach and set up demonstration units at the University Hospitals and the Rehabilitation Center.

The smaller unit, the Benjamin Rose Hospital, a 60 bed unit, will be affiliated with the school of medicine, but operated by the Benjamin Rose Institute. This hospital will be a center for teaching and research in geriatrics and will be connected to the University Hospitals by a pedestrian tunnel. The research program at the hospital will be financed by a grant of $75,000 from the U. S. Public Health Service.

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University of Wisconsin

Drs. *Ovid O. Meyer* and *John E. Gonce Jr.* conducted a postgraduate course on

May 15 through 17, entitled "Review of Some Phases of Internal Medicine and Pediatrics." Fifty physicians were in attendance.

The annual alumni day was held on May 25, at which time a review of student Field Day exhibits was conducted. Principal speaker of the day was Dr. *Kendall A. Elsom,* assistant professor of medicine, University of Pennsylvania, who spoke on "Color Television—A New Aid to Medical Teaching." Most of the afternoon was devoted to a symposium dealing with problems encountered in care of the aged. Dean *William S. Middleton* presided and made the summation.

Dr. *D. Murray Angevine,* professor of pathology, has been elected senior counsellor for the American Society for Experimental Pathology.

Dr. *L. W. Paul,* professor of radiology, served as radiologic consultant to the Armed Forces Institute of Pathology in Washington, D. C. recently. While he was there, Dr. Paul delivered a lecture to the staff on "Peripheral Carcinoma of the Lung."

Dr. *A. F. Rasmussen,* department of preventive medicine, was elected to membership in the American Society for Clinical Investigation at its recent annual meeting.

Dr. *Ray Rueckert,* director of student health, is president-elect of the North Central Section of the American College Health Association.

The Charles R. Bardeen Memorial lecture for this year, "Cancer of the Prostate," was delivered by Dr. *Charles Huggins,* professor of surgery, University of Chicago, on May 10.

Recent action by the University regents will permit the medical school to accept out of state students for the first time since the end of the war. The number of non-resident enrollees will be limited to 5% of the total for the first year class of any given year. Dean *William S. Middleton* said that the action was possible because of the decline in veteran enrollment.

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Woman's Medical College

A Career Forum on Women in Medicine was held at the college on April 19. Approximately 300 senior students from Philadelphia high schools attended. Dr. *Marion Fay,* dean of the college, presided.

A two year fellowship in ophthalmology under the direction of Dr. *Eunice Le Baron Stockwell* has been added to postgraduate appointments. Dr. *Marilyn Rigg* is the present fellow.

Thirty-nine women received M.D. degrees at the annual commencement exercises held on June 15. Honorary degrees were conferred on Dr. *Helen B. Taussig,* assistant professor of pediatrics, Johns Hopkins University School of Medicine, and John M. Russell, vice president and executive director of the John and Mary Markle Foundation. Mr. Russell delivered the commencement address.

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Yale University

Dr. *John J. Wittmer* died May 19 in his home in New Canaan, Connecticut. He was 55 years old. A vice president of the Consolidated Edison Company since May 23, 1950, Dr. Wittmer had been chosen by the University on April 21, as chairman of a national advisory council representing leading corporations which worked in conjunction with the Center of Alcohol Studies. A past president and director of both the American Association of Industrial Physicians and Surgeons and the Association for the Advancement of Industrial Medicine and Surgery, he had also been a trustee and chairman of the executive committee of the Long Island College of Medicine.

Dr. *H. M. Marvin,* associate clinical professor of medicine, received the Gold Heart Award of the American Heart Association at the Association's annual dinner on June 9.

Dr. *C. N. H. Long,* dean of the school of medicine, received the 1951 Banting Memorial Medal at the annual meeting of the American Diabetes Association on June 9. Dr. Long also delivered the Banting Memorial Lecture, speaking on "The Endocrine Control of the Blood Sugar."

Faculty Vacancies

To aid solution of the problem of faculty vacancies, MEDICAL EDUCATION *will list positions available at member institutions.*

The school or department may have the option of being identified in these columns or of being assigned a key number for each position listed, for use by the applicant. Mail addressed to key numbers will be forwarded to the person or department listing the vacancy.

Information for these columns must reach the Journal office not later than the 10th of the month preceding publication. The deadline for the September issue will be August 10.

All mail should be addressed to: MEDICAL EDUCATION, *185 N Wabash Ave., Chicago 1, Illinois.*

Instructor or Assistant Professor, Department of *Physiology*. Qualification: Ph.D. or M.D. degree (Ph.D. preferred), age preferably under 40; research interests, cardiovascular or renal if possible, but not essential; publications sufficient to demonstrate ability to do independent research. Instructor, *Anesthesiology*. Qualifications: M.D. degree from an approved school; one year internship; two years residency in hospital approved for residents in anesthesiology. For further information write the *Medical College of Alabama*, Birmingham 5, Ala.

Assistant Professor of *Bacteriology*. Duties: research and moderate amount of medical, dental and pharmacy student teaching. Qualifications: Ph.D. or M.D. degree, immunochemistry or bacterial metabolism. For further information apply to Dr. Milan Novak, Head of the Department, *University of Illinois*, 808 South Wood Street, Chicago 12, Illinois.

Instructor or Assistant Professor, *Physiological Chemistry*. Duties: teaching medical students in physiological chemistry. Qualifications: adequate training or experience in aspects of the subject taught to medical students. Further information from *Temple University Medical School and Hospital*, Broad Street at Ontario, Philadelphia, Pennsylvania.

Instructor or Assistant Professor in *Bacteriology*. Duties: teaching and research in bacteriology; qualifications; adequate training or experience in the field; apply to: Dr. Morris F. Shaffer, Chairman of the Department of *Bacteriology*. Teaching Fellow in *Ophthalmology* (two available). Duties: clinical teaching; qualifications: completion of residency training in ophthalmology. Research Fellow in *Ophthalmology*. Duties: basic research problem; qualifications: completion of residency training in ophthalmology; apply to Dr. William B. Clark, chairman of Department of Ophthalmology, *Tulane University, School of Medicine*, 1430 Tulane Avenue, New Orleans 12, Louisiana.

Research Assistantship leading to M.S. degree in *Biochemistry*. Duties: Cancer research; qualifications: transcript and references; apply to Biochemistry Department, *Medical College of Virginia*, Richmond, Virginia. Assistant *Pathologist* (full time). Duties: attending staff; qualifications: adequate training and experience for position; apply to: Director of Surgical Pathology, 1200 East Broad St., Richmond, Va.

Instructor in *micro- and neuroanatomy;* instructor in *gross anatomy*. For further information write to R. Dale Smith, *Creighton University School of Medicine*, Omaha 2, Nebr.

Medical Film Institute

The Medical Film Institute is searching for a few young physicians or medical scientists who have shown talent and interest in visual education. Such men have generally demonstrated their talents as artists, camera enthusiasts and occasionally as writers.

On the Medical Film Institute staff the status of the new personnel will be that of fellows in visual education. They will undergo formal and informal training in the skills of visual communication, while participating actively in the work of the organization. Placement after training will depend upon the nature of the skills of the particular person; there are many positions existent and to be created in the medical teaching centers. Salaries in the Institute will be determined according to prior experience and training in medicine, teaching and visual education.

For further information write to Dr. David S. Ruhe, Medical Film Institute, 20 E. 103rd Street, New York 29, N. Y.

General News

The Materials Shortage Problem NPA Priority Orders

Any hospital, physician, clinic, medical research laboratory, or manufacturer or producer for these groups who can produce evidence of urgent need, plus sufficient evidence that not one, but several attempts to obtain needed items through normal channels have failed, has a good chance to receive prompt help through representation to National Production Authority on his behalf by the Division of Civilian Health Requirements, Office of the Surgeon General, Public Health Service, Federal Security Agency, Charles G. Lavin, Program Coordinator.

It has been proposed to Defense Production Authority that manufacturers of essential health equipment and supplies be given authority to forward self-rated certified orders to the mills for all the steel, copper, and aluminum they need to produce enough hospital equipment to meet consumer demand. If this is approved, the cumbersome DO-97 system would not be needed.

Materials purchased under DO-97 are limited quarterly to ¼ the cost of similar materials used the previous year. It cannot be used for capital items costing more than $750 or for construction other than repairs. If the hospital elects to use this method, it must confine its purchase to this means for the full year and be prepared to open its records of purchases to the National Production Authority for inspection.

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American Heart Association

At the annual meeting of the American Heart Association on June 7, Dr. *Louis N. Katz*, director of cardiovascular research, Michael Reese Hospital, Chicago, became president for the 1951-52 term. Dr. *Irving S. Wright*, professor of clinical medicine, Cornell University, was chosen president-elect for 1952-53. Dr. *Howard B. Sprague*, the Association's retiring president, became chairman of the Scientific Council.

The Association has announced the granting for the 1951-52 academic year of research fellowship awards totaling $173,800, to forty-one individuals. The Association is currently granting fellowships and investigatorships in three categories. The career investigatorships support full time research careers for scientists of proved ability and originality. Established investigatorships are granted for five year periods to superior individuals interested in making a career of research. Research fellowships are granted for a one year period for recent graduates of medical or graduate schools who are interested in research and intend to follow an academic career. Stipends for established investigatorships vary from $5,000 to $7,000 annually. Research fellows receive $3,000 to $4,300 per year.

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Alumni Conference on Medicine

On June 10, Carleton College, Northfield, Minnesota, held its first alumni day centered about a specific professional interest. More than 300 alumni of the school were invited back on campus to participate in an all-day alumni conference on medicine. Purpose of the conference was to point up the values of a liberal arts education as preparation for the medical profession, as opposed to premedical programs which emphasize technical and vocational aspects.

Dr. *Jean A. Curran*, dean of the college of medicine, State University Medical Center at New York City, and Dr. *Robert E. Gross*, professor of children's surgery, Harvard Medical School, were present at the conference as distinguished alumni of the college, to participate in the discussion periods, and to receive honorary degrees on Commencement Day.

The faculty committee which planned

the conference was headed by Professor Thurlo B. Thomas, chairman of the department of zoology. He was assisted by Dean Frank R. Kille. Dean Kille is a member of the subcommittee on preprofessional education set up by the committee for the survey of medical education. The committee was sponsored by the Association of American Medical Colleges.

Carleton College, with two members of the Mayo Clinic, Drs. *Donald Balfour* and *Charles Mayo*, on its board of trustees, has an unusually high rate of acceptance for its premedical students. College authorities firmly believe this is the result of the emphasis being placed on the importance of providing prospective medical school enrollees with a good liberal education.

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Schering Awards Made

The winners of the 1950 Schering Award Competition have been announced. The contest, open to all undergraduate medical students in the United States and Canada, is intended to promote endocrine research, encourage scientific appraisal and reporting, and stimulate interest in the expanding field of endocrine therapy.

Judges for the recently ended competition were Dr. *Ira T. Nathanson*, assistant professor of surgery, Harvard Medical School; Dr. *Cornelius P. Rhoads*, director of the Memorial Center for Cancer and Allied Diseases, New York City; and Dr. *Walton W. Van Winkle*, former secretary of the Committee on Pharmacy and Chemistry of the American Medical Association.

The winning paper, "The Clinical Use of Steroid Hormones in Cancer," was submitted by Dr. *S. I. Griboff*, who was a senior student at Syracuse University College of Medicine when he enrolled in the competition. His prize was $1,000. Co-authors *Robert W. Winters* and *Henry M. Williams*, 3rd year students at Yale School of Medicine, and *Kenneth J. Ryan*, 3rd year student at Harvard Medical School, were awarded duplicate second prizes of $500. *Monte J. Meldman*, 3rd year student at Marquette School of Medicine, was awarded third prize of $300.

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American University of Beirut

Dr. *Henry G. Bennet*, Technical Cooperation Administrator in the State Department, and Dr. *Stephen B. L. Penrose*, president of the University, signed an agreement on April 26 which will establish a school of preventive medicine at Beirut, as well as schools of agriculture and engineering, economics, and finance and public administration.

Using an initial $624,000 allocation of Point 4 funds, the four new schools will prepare selected students for service in their own nations. Enrollees must agree to spend at least a year in public service after completion of training, with 118 of these special students expected to graduate each year.

American University was founded in 1866 with an original enrollment of 16 students. Today there are 2,600 students from 40 countries and 21 religious faiths.

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Active Duty for Most Young Physicians

Brigadier General *Paul I. Robinson*, chief of the Army Surgeon General's personnel division, told a meeting of the Oklahoma State Medical Association on May 14 at Tulsa, that all young physicians must plan at least one tour of active duty in the armed forces. The back-log of volunteers had been exhausted and new personnel must be obtained either through additional volunteering or by inductions through selective service. The General said, "A recent survey shows that nonprofessional work has been cut to a minimum in all theaters of operation, leaving more time for the young medical officer to improve his qualifications and abilities in whatever field of medicine he chooses."

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Medical Record in Korea

Major General *Raymond W. Bliss*, Surgeon General, U. S. Army, after returning from a month long tour of medical installations in Japan and Korea recently,

declared the medical record in that campaign "remarkable." "Approximately 98% of all wounded or ill soldiers who come to Army hospitals live, in comparison to World War I's rate of 92% and World War II's rate of 95.5%," the General declared.

He said that the remarkably low disease rate could be accounted for by three main factors. First, the soldier is taught self-care in disease prevention. Next is the immunization factor, accomplished by vaccinations which have been almost 100% effective. Finally, there is the sanitation factor, including purification of water, care of food, and cleanliness. General Bliss was accompanied on his tour by Major General *Edgar Erskine Hume,* Surgeon, Far East Command.

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Atomic Energy Commission

The Commission announced fifteen new research contracts on April 21. Seven of the new awards were in the fields of biology and medicine, the remaining eight in physical research. Ten existing contracts in biology and medicine were renewed at the same time, as well as nine in physical research.

Recipients of the new contracts in biology and medicine included: Drs. *R. U. Byerrum* and *C. D. Ball,* Michigan State College; Dr. *Harry Grundfest,* Columbia University; Dr. *Joshua Lederberg,* University of Wisconsin; Dr. *William H. Sweet,* Massachusetts General Hospital; Dr. *James V. Neel,* University of Michigan; and Dr. *E. E. Carter,* Western Reserve University.

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Civil Defense Panels in New York

Beginning with a meeting last October when representatives from the New York City medical schools met to devise a course of lectures for practitioners dealing with medical emergency problems after atomic attack, a series of panel meetings has been conducted with attendance of representatives of all nine medical schools in the state of New York. Under the leadership of Dr. *John J. Masterson,* chairman of the Civil Defense Commission's Medical Advisory Committee, the panels considered the problems of shock and fluid therapy; fractures; surgical treatment of burns; anesthesia, narcotics, and related drugs; and general surgical trauma. The overall recommendations made by the panels were intended to enable civil defense authorities to establish universal principles of treatment to facilitate procurement of supplies; to indicate the type and extent of treatment feasible at various emergency stations; and to specify treatment as might be given by nonmedical personnel in order to implement the establishment of training programs.

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School of Aviation Medicine

Colonel *Ralph M. Thompson,* head of the department of pathology at the aeromedical school for the past year, has been selected to direct Air Force activities at the Armed Forces Institute of Pathology.

The annual meeting of the Aero Medical Association was held in Denver on May 14 to 16. Colonel *Paul A. Campbell,* director of research at the school, presided over the opening session.

The third class of Aviation Medical Examiners received their diplomas after successfully completing an intensive six weeks course on May 5. Composed of regular, National Guard, reserve and foreign officers, the class brought the total number of graduates to 192 since the beginning of the year. After course completion, graduates must complete a three month supervised preceptorship before they receive their AME ratings.

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Baruch Committee on Physical Medicine and Rehabilitation

Dr. *Frank H. Krusen,* chairman, announced on May 26 that the Baruch Committee on Physical Medicine and Rehabilitation had achieved its goals and was discontinuing its activities. Bernard M. Baruch, the committee's sponsor, announced that he would still maintain contact with the institutions to which he had made grants with the object of making further gifts "to those who undertake the work with enthusiasm and beneficial re-

sults." Mr. Baruch has provided well over $2,000,000 to support this branch of medical science.

In its final report, the Committee noted that over 67% of the nation's medical schools now offer instruction in physical medicine and rehabilitation and that another 20% were planning to establish courses. The Committee also announced that there are now more than 80 residencies in the field at 40 medical centers scattered throughout the United States.

One of the final acts of the Committee was to make a grant to promote an International Congress of Physical Medicine in London from July 14-19, 1952.

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American College of Surgeons

Dr. *Bowman C. Crowell*, director of the American College of Surgeons until his retirement in 1949, died April 26 in Clermont, Florida, of a heart attack. He was 72 years old. Dr. Crowell was the first recipient of the award of the American Cancer Society.

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American Cancer Society

Dr. *R. Keith Cannan*, chairman of the committee on growth of the American Cancer Society and vice-chairman of the scientific committee of the New York University-Bellevue Medical Center, announced recently that the Society was spending $3,480,000 on grants for research. This is one-fourth of the money gathered by the Cancer Crusade. At the same time the Society announced the awarding of thirty grants, ranging from $2,500 to $20,000 in amount, to researchers in the New York City area for the coming year.

The Black-Stevenson Cancer Foundation has announced gifts of approximately $750,000 each to the Presbyterian Hospital in Newark, New Jersey, and the Memorial Center for Cancer and Allied Diseases in New York. The grants, made in the form of twenty year endowments, permit the recipients to expend not more than 10% of the principal each year, if they elect to do so.

Du Pont Experimental Station

Dr. *James B. Conant*, president of Harvard University, and Crawford H. Greenewalt, president of the DuPont Company, were principal speakers at the dedication on May 10 of the company's new $30,000,000 Experimental Station in Wilmington, Delaware. Included in the new establishment is the Lavoisier Library, containing over 25,000 volumes. The library currently receives 700 scientific and trade journals and has a staff available for translations, patent searches and literature surveys.

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Health Resources Advisory Committee

On May 18 Charles E. Wilson, director of the Office of Defense Mobilization announced that the Health Resources Advisory Committee had been transferred from the National Security Resources Board to his office. Mr. Wilson further announced that the committee would continue its functions as advisers on utilization and coordination of health facilities.

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U.S.P.H.S. Examination

A competitive examination for appointment of medical officers in the Regular Corps of the United States Public Health Service will be held on September 4, 5, 6, 1951. Applications must be received no later than August 6, 1951, for permission to take the examination, which will be held at various points throughout the United States. Appointments will be made in the grades of Assistant Surgeon and Senior Assistant Surgeon. Appointments are permanent and consideration will be given to a physician's personal preferences, abilities and experience. Requirements for assistant surgeon are at least 7 years of educational training and professional experience subsequent to high school; for senior assistant surgeon, at least 10 years training and professional experience beyond high school. For both grades applicants must be at least 21 years old, a citizen of the United States, and a graduate of a recognized school of medicine. Applicants may take the examina-

tion who will complete the requirements within 9 months of the date of the examination, but will not be placed on active duty in the Regular Corps until completion of internship.

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Foreign Licensure

Four states have recently passed legislation dealing with the licensing of graduates of foreign medical schools. A California law provides that nothing shall prohibit the board of medical examiners from disapproving any foreign medical school nor from denying the application of such school if, in the opinion of the board, the instruction received by the applicant or the courses were not equivalent to that required in the California provisions relating to the licensing of physicians and surgeons.

In Maryland, graduates from a college in a foreign country whose standards of entrance, education, and graduation requirements are equivalent to the standard defined by the AAMC or the American Institute of Homeopathy are eligible for licensure.

The New Mexico board of medical examiners is now authorized to grant licenses without examination to graduates of medical colleges accredited locally in either Mexico or Canada.

A bill passed unanimously by the West Virginia legislature provides for the licensure in that state of foreign medical school graduates who are now citizens of the United States and have resided in the state for ten years immediately preceding application for licensure. Endorsed by the State Medical Association, the bill paves the way for the licensing of a group of pathologists who have lived in West Virginia for the required number of years.

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Federal Security Agency

The annual report of the U. S. Public Health Service disclosed that 1,557 grants were made in fiscal 1950 for a total value of $14,405,300. This amount represents a $3,605,300 increase over fiscal 1949. An additional $12,000,000 was advanced for the construction of new laboratory facilities. Of the total amount given in research grants, almost half, $6,000,000, was given to 713 projects in general medicine, public health and basic sciences. Cardiovascular research received $4,000,000, cancer studies $3,400,000. The remaining funds disbursed, $1,005,300, were given to research projects in mental health and dentistry.

Another section of the report showed that, although the general death rate is continuing to decline, the death rate from heart disease was 20% higher than in 1940 while the cancer rate was 15% higher. It is also of some interest that, for the first time in the history of disease reporting in this country, a twelve month period passed without a case of malaria in Georgia, South Carolina or Arkansas.

Dr. *John A. Trautman,* a 22 year veteran in the Public Health Service, has been appointed director of the National Institutes of Health new Clinical Center for medical research in Bethesda, Maryland. He succeeds Dr. *Jack Masur,* assistant surgeon general, who became chief of the Bureau of Medical Services earlier in the year.

Progress on construction of the Clinical Center itself has proceeded to the point where the $40,000,000 500-bed institution is expected to be completed in the latter part of 1952. President Truman laid the cornerstone of the edifice at ceremonies on June 22.

Recent grants of the National Institutes of Health totaling $1,054,967 were approved by Surgeon General *Leonard A. Scheele* following recommendation of the National Advisory Health Council. One of the largest of the grants, $39,571, was made to Dr. *William R. Willard,* of Yale University, for an administrative analysis of public health personnel and staffing patterns.

Dr. *Jack C. Haldeman* has been appointed chief of the division of state grants, effective June 1. Dr. Haldeman succeeds Dr. *Estella Ford Warner,* recently assigned to a Point 4 mission to Beirut, Lebanon. In his new position, Dr. Haldeman will administer the U.S.P.H.S. program of grants in aid to states for the

development of state and local public health services.

A kit of audio-visual materials to instruct diabetic patients is now available for purchase, and in some instances, loan. Prepared jointly by the American Diabetes Association, the American Dietetic Association and the Public Health Service, the kit requires the use of a 33⅓ rpm record player and a 35 mm. film projector, covering all the important things a diabetic should know about himself. Full information about the kit may be obtained by writing to Health Publications Institute, Inc., 216 North Dawson Street, Raleigh, North Carolina. For previewing purposes, the kits may be borrowed from state health departments. Short term loans may be arranged from the Film Library, Communicable Disease Center, Public Health Service, Atlanta, Georgia.

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Guggenheim Awards

The John Simon Guggenheim Memorial Foundation announced its annual fellowship awards on April 15. Fellowships totaling $568,000 were given to 154 American and Canadian scholars. This year's awards average about $3,600, the amount varying with individuals. Fellowships in medicine were given to Dr. *Richard W. Lippman*, research associate, Institute for Medical Research, Cedars of Lebanon Hospital, Los Angeles, for studies of renal function, and to Dr. *Shih-Chun Wang*, associate professor of physiology, Columbia University, for work on the physiology of the autonomic nervous system.

Ten fellowships were granted in the field of biochemistry, including an award to Dr. *Roger Yate Stanier*, associate professor of bacteriology, University of California, Berkeley, for a study of biochemical mechanisms of oxidative metabolism in bacteria, and an award to Dr. *Albert Lester Lehninger*, associate professor of biochemistry, University of Chicago, for a study of the mechanism of enzymatic phosphorylations. Other winners of biochemistry fellowships included Dr. *Frederick Alexander Fuhrman*, assistant professor of physiology, Stanford University, for work on the metabolic processes involved in active ion transport in animal tissues, Dr. *Ruth Hoffman Hubbard*, research fellow, Harvard University, studying the biochemistry of human vision, and Dr. *Thomas Peter Singer*, assistant professor of biochemistry, Western Reserve University, for a study of the intermediary metabolism of micro-organisms.

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Hospital Payment Conference Held

An American Hospital Association conference on the Method and Amount of Hospital Payment was held in Chicago from May 21 to 23. Purpose of the meeting was to draft a statement establishing basic principles of hospital payment by agencies purchasing care. A report of the conclusions of the conference is being prepared for distribution in the near future to interested organizations.

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Health Insurance Plan

At the annual meeting of the Health Insurance Plan of Greater New York on May 21, it was announced that membership has reached a figure of 270,000 persons. Assets of the organization had increased to $2,320,000, surplus to $1,529,000. Mayor Impellitteri was elected to the board of directors for a term to expire in May 1953.

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Citizens Committee for the Hoover Report

Dr. *Robert Collier Page*, chairman of the National Doctors Committee for Improved Federal Medical Services, announced on May 19 the completion of an advisory committee of experts from every branch of the medical profession. Included on the committee is Dr. *Richard Hale Young*, dean of the Northwestern University school of medicine.

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Hill-Burton Program

As of December 31, 1950, 1,489 applications for hospital construction utilizing Hill-Burton funds had been ap-

proved, it was announced recently. Of the more than $1,000,000,000 in projects proposed, 366 have been completed and are in operation, 840 were under construction, 283 were in preconstruction stages. Additional beds provided by these projects total nearly 71,000. Seventy-two percent of all applications were for proposed general hospitals, 5% for mental hospitals, 3% for tuberculosis hospitals, 1% for chronic disease facilities, 15% for public health centers, and the remaining 4% for combined facilities. Fifty-eight percent of the new projects are located in towns of less than 5,000 population.

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National Foundation for Infantile Paralysis

Dr. *Thomas B. Turner,* professor of bacteriology, Johns Hopkins University, has been appointed head of a professional committee to help administer a plan established by the National Foundation for Infantile Paralysis to provide short term fellowships for undergraduate medical students. The new fellowships provide $400 each to enable undergraduates to spend a minimum of two months engaged in research under the direction of a competent investigator. The dean of each four year medical school is allowed to nominate one student for the award.

Raymond H. Barrows, vice president and manager of the Pacific area of the American Red Cross, has been appointed executive director of the Foundation. He succeeds Joe W. Savage, who has accepted a position as associate editor of King Features Syndicate.

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Institute for Psychomatic and Psychiatric Research and Training

On June 2 in Chicago, Michael Reese Hospital dedicated the largest psychiatric institute in the world to be associated with a general hospital. The new unit, costing $2,000,000 and containing five floors and 82 beds, is known as the Institute for Psychomatic and Psychiatric Research and Training. The two main divisions of the Institute will both have a number of beds set aside for children. About a third of the beds will be reserved for patients unable to pay all or any part of the cost of care. Twenty percent of the space in the new unit is reserved for research and the hospital will also be used in the training of psychiatrists.

On June 1, the day preceding the dedication, an all day conference entitled "Some Aspects of Midcentury Psychiatry" was held. Principal speaker was Dr. *Franz Alexander,* clinical professor of psychiatry, University of Illinois, and director of the Chicago Institute of Psychoanalysis. Drs. *David Levy,* professor of psychoanalysis, Columbia University and *David Shakow,* professor of psychology, University of Illinois, also spoke. Dr. *Roy Grinker,* director of the new institute, acted as chairman.

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Legislation Regarding Medical Schools

Four states, Florida, Massachusetts, Mississippi and Texas, have recently enacted legislation looking to the establishment of a new medical school. Tennessee and West Virginia have already passed legislation providing for expansion of the existing medical schools in the state. In Wyoming, the trustees of the University have been authorized to contract with medical schools outside of the state for the purpose of training residents of the state in medicine, dentistry, veterinary medicine, or nursing.

The New Jersey Medical College Commission studied the need for a medical school in the state, and in its report, recommended to the legislature that a school be established at Rutgers University. A Louisiana law has established a committee to investigate the need for additional medical, dental and pharmaceutical training facilities in the state.

The state of Arkansas has passed legislation dealing primarily with the rural health problem. The committee on admissions of the medical school is now required to allocate position vacancies in the school according to congressional districts based upon the population ratio

of the district. Applicants from counties of low population will be given priority if they are willing to certify their intention to practice medicine upon completion of training in communities of 2000 or less. Another Arkansas law provides loans to medical students on the condition the recipient, upon the completion of his internship, practice medicine in an Arkansas community of 2000 population or less for a period of five years.

The state of New York has provided scholarships of $3,000 for medical and dental students, the sum to be paid over a period of four years.

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National Society for Medical Research

Dr. *William Henry Sebrell Jr.*, medical director of the U. S. Public Health Service and chief of the division of physiology, National Institutes of Health, has been appointed to the Society's board of trustees.

Oklahoma passed a law providing for use in research of unclaimed dogs in public pounds late in April, becoming the fourth state to do so. Similar bills are pending, at this writing, in Illinois and Pennsylvania. The city of Buffalo passed a bill on April 30 allowing approved laboratories to purchase dogs from the municipal pound for the license fee of two dollars. Cats may be procured without charge. Buffalo was the first city in New York state to pass such a law, although 31 other cities in other states have similar measures.

South Dakota had, earlier this year, passed a pound bill, while such a measure was defeated in Arizona, California, Massachusetts and New York.

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National Academy of Sciences

Twenty-nine American scientists and three foreign associates were elected to the National Academy of Sciences at the annual business meeting of the organization on April 24. Included on the list were Dr. *John T. Edsall*, associate professor of biological chemistry, Harvard Medical School; Dr. *Albert B. Sabin*, professor of research pediatrics, Children's Hospital Foundation, Cincinnati; Dr. *William S. Tillett*, chairman of the department of medicine, New York University College of Medicine; and Dr. *Carl J. Wiggers*, professor of physiology, Western Reserve University School of Medicine.

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American Academy of Orthopedic Surgeons

Researchers interested in competing for the annual $1,000 award of the American Academy of Orthopedic Surgeons may secure complete information by writing Dr. *Austin T. Moore*, Gervais and Pickens Streets, Columbia 5, South Carolina. The annual prize is donated by the Kappa Delta Sorority.

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Increase in Physician Total

An all time high in the census of United States physicians was reported by the American Medical Association recently. The total number, 209,040, was reached by a net gain of 2,208 in the physician population last year, when there were 6,002 additions to the profession as opposed to 3,794 deaths.

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American College of Physicians

Dr. *Richard A. Kern*, professor and chairman of the department of medicine, University of Pennsylvania Graduate School of Medicine, has been elected secretary-general of the American College of Physicians. Dr. *William D. Stroud*, professor of cardiology, was re-elected treasurer.

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American Society for Pharmacology and Experimental Therapeutics

Dr. *Walter F. Riker Jr.*, associate professor of pharmacology, Cornell University, was awarded the John J. Abel Prize in Pharmacology, consisting of $1,000 and a bronze medal donated by the Eli Lilly Company, at the annual meeting of the American Society for Pharmacology and Experimental Therapeutics on April 29 through May 3. The meeting was held in Cleveland. Officers elected by the So-

ciety included Dr. *McKeen Cattell,* Cornell University, president; Dr. *K. K. Chen,* Lilly Research Laboratories, president-elect; Dr. *Carl C. Pfeiffer,* University of Illinois, secretary; and Dr. *Robert P. Walton,* Medical College of South Carolina, treasurer.

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American Psychoanalytic Association

At the annual meeting of the American Psychoanalytic Association held in Cincinnati from May 3 to 6, it was revealed that more than 700 students are now in training to become analysts. This number represents substantially more than the total number of existing practicing analysts in the nation, there being 428 full members of the Association and 150 associate members of affiliated societies. According to Dr. *Robert P. Knight,* president of the organization, the increase is the result of the impetus psychoanalysis received during World War II. Dr. *Ives Hendrick,* president-elect and chairman of the board of the Association, and a member of the Harvard Medical School faculty, urged more intensive courses for medical students in the study of emotional illness. Dr. Hendrick added, "I consider my chief contribution to medical education the clinical education of professional students, not the frozen foods dispensed from the lecture platform."

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Preventive Medicine Programs

The Commonwealth Fund has made a grant of $150,000 to the Health Insurance Plan of Greater New York for a study of family experience in medical care. The Health Insurance Plan is cooperating with Columbia University College of Physicians and Surgeons and various social welfare agencies in conducting the first large scale experiment in health maintenance. The first families have already been selected for study, picked from among several thousand in the plan who volunteered. They will be given a complete physical and environmental survey as the first step in the endeavor to maintain these families at a level of health, rather than wait until illness strikes to treat them.

Beginning in June, in San Francisco, 150 to 200 stevedores a day began to undergo mass-scale health screening tests as part of a preventive medicine program initiated by Local 10, International Longshoremen's and Warehousemen's Union. Among other agencies, the University of California is cooperating in the plan. The longshoremen pay $2.95 a month into their welfare fund, the sum being expected to take care of the costs of the screening as well as of medical care and hospitalization. Each person screened is sent a confidential letter apprising him of his general medical condition. In the case of those men who reveal warning signs of illness, a complete follow-up for diagnosis and treatment is guaranteed.

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College Scholarships

Beginning in July, 1952, Rotary International will spend $250,000 annually for three years in providing graduate fellowships for foreign study. The grants will range from $1,800 to $3,400. Candidates are chosen from those endorsed by local Rotary clubs.

Applications for 1952-1953 Fulbright Awards must be mailed not later than October 15. The approximately 230 awards are open to graduate students, either for university lecturing, post-doctoral research or pre-doctoral study. Countries, including Australia, New Zealand, India, Pakistan, Philippines, Burma and Thailand, in which the academic year commences in the spring and early summer, already have their 1952-53 quotas filled. Further information may be obtained by writing to the Executive Secretary, Committee on International Exchange of Persons, Conference Board of Associated Research Councils, 2101 Constitution Avenue, Washington, D. C.

A 240 page handbook entitled "Opportunities in Inter-Racial Colleges" is available from the National Scholarship Service for Negro Students. The book lists $11,000,000 in undergraduate scholarships that are awarded each year without any racial restrictions.

Trudeau Medal Awarded

Dr. *Rene J. Dubos,* department of pathology and bacteriology, Rockefeller Institute for Medical Research, received the Trudeau Medal of the American Tuberculosis Association at the 47th annual meeting of the organization on May 16. Dr. *Esmond R. Long* presented the award.

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Retirement Programs

The annual report of the Teachers Insurance & Annuity Association of America, 522 5th Ave., New York 18, for 1950 is now available. The report covers very comprehensively the activities of the Association and explains for non-members and prospective members, the services offered.

A study recently completed by the National Education Association indicates that the average retirement allowance paid to teachers who have served thirty or forty years before they retire is about $1,000 a year. The report states its position that increased retirement allowances must be forthcoming, or more and more prospective teachers will be deterred from entering the profession. The NEA offers several practical answers to the problem.

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American Foundation of Occupational Health

On May 1, the American Foundation of Occupational Health assumed the duties of evaluating and approving medical services in industry which the American College of Surgeons had performed for twenty years. To help in the project, the Foundation is establishing a board of governors. On the board there will be three members of the Industrial Medical Association, three representatives of the donors of the project, two outstanding business executives, and one member from each of the following: American College of Surgeons, American College of Physicians, American Medical Association, American Academy of Occupational Medicine, Association of American Schools of Public Health, Industrial Hygiene Foundation, and the Association of American Medical Colleges.

World Health Organization

A new code of international sanitary regulations has been adopted by the World Health Assembly and will go into effect October 1, 1952. The new code consolidates and replaces numerous existing international conventions designed to prevent the spread by sea or air traffic of infectious diseases. Dr. *Montagu Travers Morgan,* medical officer for the Port of London, was elected president of the Sanitary Conference which drafted the new code.

Surgeon General *Leonard A. Scheele* was elected president of World Health Organization at the 4th annual assembly on May 7.

Spain, Japan and West Germany were formally admitted to membership in the organization on May 16.

With reimbursable funds advanced by the W. K. Kellogg Foundation and the Rockefeller Foundation, the Pan American Sanitary Bureau has purchased two houses in Washington, D. C. as its permanent headquarters. At the same time the Bureau announced that Dr. *Fred L. Soper* has received official appointment as director, a position he has been filling since July 1, 1949.

The United States, Britain, France, Switzerland and Canada, the principal producers of DDT, have been notified that reduced production of the insecticide because of defense priority orders will seriously endanger the health programs in many tropical and semitropical countries.

The World Health Organization has established an international radio network which broadcasts news of epidemic outbreaks of dangerous diseases, warning local health authorities of danger points. Master station in the network is in Geneva, with 13 substations in the Far East.

The International Training Center for Anesthesiology has graduated its first class from the University of Copenhagen. The class was composed of 30 medical fellows from 7 European nations. A second group of 30 fellows has begun the course.

Budgets of $8,700,000 for the World Health Organization and $1,943,681 for the Pan American Sanitary Bureau have been approved for the coming fiscal year.

Funds for Colleges

A recent study indicates that the rate of giving to United States institutions of higher education is now at its highest level in history. The study reveals that during the past 30 years, $1,600,000,000 has been given to 51 of the leading colleges and universities. In 1921 the total of gifts to these institutions was $27,734,000. In 1949-50 the same schools reported a total donation of $112,790,000. In the interval between these two years, the study shows that giving dipped and rose with economic conditions, but that not even in 1929 did giving equal the 1949-50 figures. During the period studied, the greater part of the philanthropy was in gifts, 69% of the total. The remainder was in the form of bequests.

Among the 51 institutions included in the study, 28 were large colleges and universities. These latter received 88% of the gifts and 89% of the bequests. Five universities, Harvard, Yale, Chicago, Northwestern and Columbia, received 46% of the total.

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New Surgeon General of Army

Major General *George E. Armstrong* was sworn in on June 6 as Surgeon General of the Army. He succeeds Major General *Raymond W. Bliss,* whose retirement from the Army became effective May 31 after 40 years of service.

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American Students in European Medical Schools

Dr. *Morris Fishbein,* former president of the American Medical Association, recently returned from a survey of European medical facilities, stated that "the need for more medical men is so acute that we shall have to find some means of utilizing government funds without sustaining government control to advance medical education." Dr. Fishbein expressed great concern at what he termed the "overwhelming rush" of American students to European medical schools. He said that the situation represents a need that must be met by extension of medical education facilities in this country, where schools are presently limited in their admissions by availability of teachers and laboratory facilities.

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Conference Announcements

The 4th annual meeting of the *American Association of Blood Banks* will be held October 22-24 at the Hotel Nicollet, Minneapolis, Minnesota. Details may be obtained by writing the Office of the Secretary, 3301 Junius Street, Dallas 1, Texas.

The 79th annual meeting of the *American Public Health Association,* the 18th annual meeting of its western branch, and the annual meetings of 38 related organizations will be held simultaneously in San Francisco, October 29 to November 2. Local arrangements are being made under the direction of Dr. J. C. Geiger, director of public health, City and County of San Francisco.

The *American Congress of Physical Medicine* will hold its 29th annual scientific and clinical session September 4-8 at the Shirley-Savoy Hotel, Denver, Colorado. All sessions will be open to physicians and other professional personnel. Information may be obtained from the American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

The *Southern Medical Association* will hold its 45th annual meeting at Dallas, Texas, November 5-8.

The *American College of Surgeons* will hold its 37th annual clinical congress in San Francisco, November 5-9, with headquarters at the Fairmount Hotel and Civic Auditorium. The 30th annual Hospital Standardization Conference will be held concurrently.

The next meeting of the *American Association for the Advancement of Science* will be held in Philadelphia, December 26-31. The program includes subsections on medicine, medical sciences, pharmacy and chemistry.

The 62nd annual meeting of the *Association of American Medical Colleges* will be held from October 29-31 at French Lick Springs Hotel, French Lick, Indiana.

Book News

A Textbook of Medicine

Russel L. Cecil, M.D., and Robert F. Loeb, M.D., Co-Editors; Alexander B. Gutman, M.D., Walsh McDermott, M.D., and Harold G. Wolff, M.D., Associate Editors. 8th Edition. W. B. Saunders Company, Philadelphia and London. 1951. 1627 pp. $12.00.

Since its first appearance nearly a quarter of a century ago, Cecil's "Textbook of Medicine," has held the respect and confidence of medical students and physicians. The new (8th) edition carries forward the tradition of authoritative information presented in compact, readable form.

New make-up and type have been used, permitting approximately 10% more words per page without sacrifice of clarity. Some of the space saved in this way has been devoted to improvement of the index, expanded from 40 pages in the 7th to 73 pages in the new edition. The gain in speed of securing detailed information is illustrated by the fact that the number of page references under diabetes has been increased from 51 to 113 and under hypertension from 15 to 83. In spite of this, the volume contains 103 fewer pages than did the 7th edition. The excellent binding makes it surprisingly flexible.

Although the general plan of the text remains relatively unchanged, there have been some rearrangements, such as the grouping together of diseases of collagen. A notable improvement has been made in the section on, "Diseases of the Cardiovascular System," particularly in the more comprehensive coverage of vascular hypertension. The emphasis on recent advances in treatment is indicated by the many references to ACTH and cortisone, and by revisions such as those in the section on diabetic acidosis, where larger doses of insulin are recommended and prevention of potassium depletion is discussed.

Although the bibliographies following many of the sections are good, it is unfortunate from a teaching point of view that some of the 168 contributors failed to take advantage of the new edition to add important recent references. This is a service to students which such experts should be encouraged to render.

—John L. Caughey, Jr.

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Syllabus of Human Neoplasms

R. M. Mulligan, M.D., Professor of Pathology, University of Colorado School of Medicine. Lea & Febiger, Philadelphia. 1951. 230 Illustrations. 317 pp. including index. $7.50.

This is a small manual of 317 pages devoted to a discussion of the more important and some of the rarer tumors observed in man. There are 230 illustrations, almost all photomicrographs of moderate to high magnification, which are well prepared and reproduced.

There are eleven chapters and a supplement. After an introductory chapter there are ten chapters with classification based on the tissue or organ of origin; skin and appendages, mesenchymal tissues, neuroectodermal tissue, alimentary tract, respiratory tract, urinary tract, male genitalia, female genitalia, endocrine glands, and miscellaneous. The supplement includes six tumors which apparently were omitted in the original manuscript.

In a field such as oncology it is impossible for a reviewer to pass critically on the subject matter of all chapters. Careful appraisal of the chapter on the male genitalia leads to the conclusion that the information is accurate and adequate for the size of the book as a whole. For example, on carcinoma of the prostate there is some statement about general incidence, clinical signs and symptoms, osseous metastases, serum acid and alkaline phosphatase, latent carcinoma, relation to nodular hyperplasia, multicentric origin, lymphatic spread, microscopic appearance, sites of metastases, and treatment by orchiectomy and with estrogens. It follows there are only one or two sentences on most of these topics; hence, it is a book closer to the needs of medical students and other specialists, than it is what the pathologist should have for full information about a tumor. General review of the other chapters supports this detailed appraisal of one chapter.

—Robert A. Moore

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Diabetes Insipidus

Harry Blotner, M.D., Associate Visiting Physician, Beth Israel Hospital, Boston, Massachusetts. Edited by Henry A. Christian. A.M., M.D., LL.D., ScD. (Hon.) M.A.C.P. (Hon.) F.R.C.P., D.S.M. (A.M.A.) Oxford University Press, New York. 1951. 194 pp. plus Index. $4.50.

This monograph represents a reprint from Oxford Loose-Leaf Medicine, and constitutes one of the best source references in the literature. The author evolves his subject from a critical historical analysis, and credits Cullen (1789) with the first separation of diabetes mellitus and diabetes insipidus by name. The anatomic and physiologic considerations are painstakingly exhausted.

Blotner concludes that the loop of Henle is the site of the physiological deficiency in diabetes insipidus which is corrected by pituitary extract. The pathological lesions of this disorder may be in the posterior or neural lobe of the pituitary, the hypothalamus or the supra-

optic-hypophyseal tract. Theoretically, there is normal balance between the diuretic action of the anterior lobe and the antidiuretic action of the posterior lobe of the pituitary. Diabetes insipidus cannot occur in the absence of a functioning anterior lobe.

From the author's extended experience of a hundred and twelve instances of diabetes insipidus, he has drawn most effectively to illustrate the clinical variants of this syndrome. In Beth Israel Hospital, Boston, one instance of diabetes insipidus occurred in every 4,469 consecutive admissions to the wards (total 17). In the author's opinion, the pituitary gland is the primary rather than the secondary seat of disturbance in Hand-Christian-Schüller's disease, since a disturbance in the lipoid metabolism is encountered in both, even when they appear independently.

Four hundred and seventy references to the literature are listed, and a splendid index afforded. As evidence of the fidelity of reproduction, in Figure 8(a), Christian is misspelled "Chistian" just as in the original Oxford Loose-Leaf Medicine. This monograph is highly recommended as a source reference.

—William S. Middleton

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The Kidney: Structure and Function in Health and Disease

Homer W. Smith, A.B., ScD., M.S., Professor of Physiology, New York University College of Medicine. Oxford University Press, New York. 1951. 1049 pages. $12.50.

In this scholarly presentation, Professor Smith has expanded and completely revised his classic 1937 monograph to include the experimental work which has elucidated so many of the problems of renal function during the past fifteen years.

Dr. Smith's thesis, as stated in the preface, is that in all the higher animals, the plasma has a remarkably constant composition, not only from individual to individual but among distantly related groups. This constancy is in large part a consequence of the activity of the kidneys, which under all conditions excrete a urine of such composition as to offset any tendency toward deviation in the composition of the plasma. In the last analysis, composition of the plasma is determined not by what the body ingests but by what the kidneys retain and what they excrete. This regulatory function is just as important as the excretion of the waste products of metabolism or of foreign substances, which hitherto has received nearly all the emphasis.

Regulatory and excretory operations receive about equal emphasis in this book, though it may seem at first glance that disproportionate emphasis is placed on some rather highly specialized problems. It may seem also that too little emphasis is placed on detailed renal pathology. However, physiology must always precede pathology—and we are still a long way from understanding all that we need to know about renal physiology.

High spots of the book are the critical analyses of studies on renal clearance, tubular excretion and reabsorption, acid-base equilibria in plasma and urine, and renal hemodynamics. Disturbances of renal function in non-renal disease, in traumatic and toxic injury, in hypertension and in chronic congestive heart failure are also discussed in stimulating fashion.

There is a remarkably complete bibliography of 2300 references. The index is well-organized and the type face very readable.

As a result of the author's long experience in medical education, the book is masterfully organized and delineated in such a way as to make the most complex concept seem relatively simple.

This is a book that will be a necessity for students of physiology and of medicine. Clinicians, too, will find much to interest and stimulate them. This book will occupy a prominent place in the libraries of medical schools and colleges everywhere and should solidify Homer Smith's position as the outstanding renal physiologist of our times.

—Milton L. Bankoff

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The Student's Handbook of Surgical Operations

By Sir Frederick Treves, F.A.C.S. revised by Sir Cecil Wakeley, F.R.A.C.S., Director of Surgical Studies and Teacher of Operative Surgery, King's College Hospital Medical School and Examiner in Surgery to the University of Cambridge. Ed. 9. Paul B. Hoeber Inc. Medical Book Department of Harper & Brothers, New York. 1951. 580 pp. $5.50.

The author states in his preface that this text is a students' handbook. The contents are devoted to the technic of the more common surgical procedures and do not present the problems of diagnosis nor pre- and post-operative care. The subject material is drawn up in a didactic manner best suited for rapid pre-examination student review on surgical technics. Certain phases of surgical anatomy are presented clearly in graphic form. There is insufficient detail, both in text and drawing, to make this book of practical value to the graduate intern or resident in surgery.

—Melvin A. Casberg

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Electroencephalography in Clinical Practice

Robert S. Schwab, M.D., Director of the Brain Wave Laboratory, Massachusetts General Hospital, Associate in Neurology, Harvard Medical School. W. B. Saunders Company, Philadelphia and London. Illustrated. 1951. 195 pp. $6.50.

Dr. Schwab states, "the purpose of this book is to discuss the uses and limitations of electroencephalography in the diagnosis and

study of diseases of the nervous system. The book is, therefore, primarily intended for neurologists, internists, psychiatrists and neurosurgeons. It is not a manual for the electroencephalographer, nor in any sense a textbook in this field." The present volume seems to meet very adequately the aims of the author. The need for using this diagnostic tool in conjunction with the other usual procedures of the clinician is emphasized.

The first part of the book covers the history and relation of electrophysiology and anatomy of the brain to electroencephalography. This provides the necessary basic principles for understanding the later specific applications. The normal and abnormal electroencephalogram is taken up next. Clear descriptions and figures amply and simply demonstrate the features electroencephalographers look for. The author then discusses electroencephalographic technique. The figures illustrate the common artifacts which usually confuse the beginning electroncephalographer.

The following chapters deal with the specific uses of electroencephalography in epilepsy, other neurological, neurosurgical and psychiatric conditions. Though the diagnostic value of the electroencephalogram in psychiatry has been limited in the past, this may not be so in the future. A chapter is devoted to the research use of the electroencephalogram. Much investigative work has been done with infrahuman species, but the author wisely does not get involved with this as it would not fit with the clinical scope of the book. Finally, the organization and training of staff for an EEG laboratory are discussed. Appropriately, it is pointed out that the interpretation of records and reports issued should have as much clinical correlation as possible.

The illustrations are clear, simple and adequately explained. Each chapter has selected references at the end which direct the reader to more detailed sources. This book is recommended to all who wish more than a cursory knowledge, yet not an exceedingly technical one, of electroencephalography.

—*George H. Pollock*

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Tomorrow's Horizon in Public Health

Transactions of the 1950 Conference of the Public Health Association of New York City. 1950. 109 pp. $1.00.

Eight papers delivered as a symposium in January 1950, these monographs are, as a whole, thoughtful and lucidly presented. Dealing primarily with the concept of public health as an integrated field of medicine, rather than as a general heading under which many distinct branches of study and work are precariously lumped, the book speaks well for its case. The sections dealing with tuberculosis in the light of the new epidemiology and the permutations in psychiatry and public health are especially noteworthy.

Chronic Illness
Digests of Selected References

Violet B. Turner, Consultant, Division of Public Health Methods, Public Health Service. Federal Security Agency, Washington, D. C. 1951. 216 pp. including Author Index and Agency Index. $.50.

This paper backed book is an enormously useful digest of significant information in the field of chronic illness. Dealing only incidentally with specific questions of therapy in regard to the various illnesses, the 545 condensations and precise reports stress the administrative problems involved in the care of the chronically ill.

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A Few Buttons Missing
The Case Book of a Psychiatrist

James T. Fisher, M.D., and Lowell S. Hawley. J. B. Lippincott Company, Philadelphia and New York. 1951. 282 pp. $3.50.

Written in a graceful clear style, the book is really an autobiography of one of America's pioneer psychiatrists. Designed for the general public, *A Few Buttons Missing* accomplishes two purposes. First of all, it provides a few hours of excellent entertainment. Secondly, it furnishes a basis of understanding for the average layman which ought to banish the general fear and mystery associated with the field of psychiatry in the public mind. The professional writer's name on the title page leads one to wonder why more eminent men with lives worthy of recounting don't consult a specialist when they set out to tell their stories. Certainly this book gains much by its swift and pungent readability.

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Leprosy

Annals of the New York Academy of Sciences Volume 54, Article 1. Editor Roy Waldo Miner, Associate Editor B. J. Henegan, Consulting Editor and Conference Chairman E. Grunberg. The New York Academy of Sciences, 2 East 63rd Street, New York 21, New York. March 30, 1951. Illustrated. 142 pp. $2.75.

This symposium is a comprehensive, engrossing review of one of the world's oldest diseases. Treating all phases of the subject, from the bacteriological and pathological aspects of the disease to the almost criminal stigma to which sufferers from the disease are subjected, the book is a valuable compendium of information in the field.

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Hospital Staff and Office Manual

T. M. Larkowski, M.D., F.A.C.S., Professor of Clinical Surgery, Stritch School of Medicine, Loyola University; and A. R. Rosanova, R.Ph., M.D., Clinical Instructor, University of Illinois Medical School. Romaine Pierson

Publishers, Inc. Great Neck, New York. 1951. 428 pp. Indexed. $4.95.

This is a survey of almost the entire field of medical practice, including extremely brief outlines of an amazing assortment of conditions and procedures. Its use seems limited to functioning as a sort of syllabus for medical students, or to outline scanning as a refresher course.

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Handbook of Pediatric Medical Emergencies

Adolph G. DeSanctis, M.D., Professor of Pediatrics and Chairman of the Department of Pediatrics, Post-Graduate Medical School, New York University-Bellevue Medical Center and Charles Varga, M.D., Instructor in Pediatrics, Post-Graduate Medical School, New York University-Bellevue Medical Center. The C. V. Mosby Company, Saint Louis. 1951. 284 pp. with Index, Appendix and Addenda. 51 Illustrations. 17 Tables. $5.00.

This is an intensely practical handbook dealing with the more common types of emergency to be encountered in the practice of pediatrics. The authors, aided by the members of the pediatrics staff of the Post-Graduate Medical School, have endeavoured to deal almost entirely with therapy, discussing symptomatology only when it was essential to an understanding of their main interest. They have no intention of maintaining that the book is a comprehensive text in pediatrics, but within its limits this handbook is very valuable.

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Veterans Administration Technical Bulletins Series 10, Volume 4, 1950

Washington 25, D. C. January 1951. 11 Articles with separate bibliographies.

These bulletins are good scientific monographs written originally for distribution to Veterans Administration physicians. The range extends, in the present volume, from treatment of cardiac arrest and the management of alcoholism to such subjects as medical planning in atomic warfare and a social caseworker's responsibilities in a medical residency training program.

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History of Pharmacy—2nd Edition

Edward Kremers, Ph.G., Ph.M., Ph.D., Sc.D., Late Director, Course in Pharmacy and Professor of Pharmaceutical Chemistry, University of Wisconsin; and George Urdang, Ph.G., D.Sc.Nat., Sc.D., Professor of the History of Pharmacy, University of Wisconsin, Director of the American Institute of the History of Pharmacy. J. B. Lippincott Company, Philadelphia. 1951. Revised and Enlarged. 30 Illustrations. 622 pp. with Bibliography, Appendix, Chronological Table and Index. $7.50.

Intended as a guide and survey to accompany either practical or lecture courses, this text is so arranged as to make it useful for particularized study of a specific period, or for more generalized coverage of the entire field. It contains a great amount of source material and is very useful as a reference work. The present expanded edition contains a new section on the history of Spanish pharmacology as well as more up to date information on the situation in France and England.

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The American Illustrated Medical Dictionary

W. A. Newman Dorland, A.M., M.D., F.A.C.S., Lieut. Col., M.R.C., U. S. A., Former Member of the Committee on Nomenclature and Classification of Diseases of the American Medical Association. W. B. Saunders Company, Philadelphia and London. 1951. 1736 pp. 22nd edition. 720 Illustrations including 48 Plates. $10.00.

The new edition of this standard reference work contains thousands of new terms, new typography, new design, and several dozen new illustrations. Also new to the Dictionary are the preliminary article, *Fundamentals of Medical Etymology*, by Professor Lloyd W. Daly of the Department of Classical Studies of the University of Pennsylvania, and a table of Modern Drugs and Dosage compiled by Dr. Austin Smith, editor of the Journal of the American Medical Association.

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Patterns of Disease on a Basis of Physiologic Pathology

Frank L. Apperly, M.A., M.D., D.Sc., F.R.C.P. (London), Professor of Pathology, Medical College of Virginia. J. B. Lippincott Company, Philadelphia. 1951. 50 Figures and 37 Charts. 456 pp. Indexed. $8.00.

Intended for use by medical students and beginning practitioners, the book was written because of the author's belief that existing texts on pathology contained too much structural detail and not enough correlation between pathology and physiology. Accordingly, he presents a progressive picture of the disease process together with a discussion of the compensatory mechanisms adopted by the body. The book is based upon the author's lectures on pathology and is extremely useful as a reference and supplementary text in the subject. The overall organization shows much thought and considerable skill. It is a well written, well worked-out book.

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Their Mothers' Sons

The Psychiatrist Examines an American Problem. Edward A. Strecker, A.M., M.D., Sc.D., Litt. D., LL.D. J. B. Lippincott Company, Philadelphia and New York. 1951. New edition with additional chapter. 237 pp. $3.50.

A very readable account, by a well-known

psychiatrist, of the phenomenon of "Momism," the book seems to comprise an attempt to interpret our entire way of life in terms of misapplied mother love. His characteristic method is to disclaim inclusiveness in the first paragraph of each chapter, then to make rather sweeping generalizations as he proceeds. Apparently intended for the informed layman, there has been an attempt to make the text dramatic, perhaps at the expense of scientific cautiousness.

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Industrial Health and Medical Programs

Health Service Publication No. 15. Statements, tables, and charts selected and compiled by Margaret C. Klem, Margaret F. McKiever and Walter J. Lear, M.D. Federal Security, Public Health Service, Division of Industrial Hygiene. Washington, D. C. September 1950. 397 pp. with bibliography. $1.00.

Containing a compilation from 260 sources, the book is one of the most useful references imaginable. Crammed with facts about all aspects of the industrial health field except specific therapeutic devices and technical engineering problems, a very comprehensive portrait of the American industrial plant emerges, with the relationship of the health program to the whole picture well defined. The arrangement is intelligent; all in all a very valuable addition to any reference shelf.

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Maternal Care and Mental Health

World Health Organization Monograph Series, No. 2.

John Bowlby, M.A., M.D., Director, Child Guidance Department, Tavistock Clinic, London; Consultant in Mental Health, World Health Organization. World Health Organization, Palais des Nations, Geneva, Switzerland. 1951. 179 pp. with Tables, Bibliography, and 4 Appendices. $2.00. Available in English or French.

The book represents a careful study of the effects of maternal deprivation on children, bearing as its main thesis that these children need care not only from feelings of humanity, but because they represent a menace to the mental health of the society which engenders them. The author pays particular attention to the problems involved in saving homes and providing substitute homes, maintaining that a poor home is often better than a good institution. One short chapter is devoted to administration of child-care services and problems for research.

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Annual Review of Physiology

Victor E. Hall, Editor; Jefferson M. Crismon, Associate Editor; Arthur C. Giese, Associate Editor, Stanford University. Volume 13. American Physiological Society and Annual Reviews, Inc., Stanford, California, 1951. 457 pp. $6.00.

The annual reviews in physiology are well known to those in this field. They are critical reviews designed to cover the current literature and are written by experts. Sections are devoted to various organs and systems and there are, as well, chapters on permeability, radiation effects, nerve conduction and transmission, somatic functions of the nervous system, electrical activity of the brain, metabolic functions of the endocrine glands, physiology of reproduction, etc. The number of references cited per section average well over 200. In this particular copy, there was an error in binding; pp. 67-98 are included twice and pp. 99-130 are missing.

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Annual Review of Medicine

Windsor C. Cutting, Editor; Henry W. Newman, Associate Editor, Stanford University. Volume 2. Annual Reviews, Inc., Stanford, California, 1951. 485 pp. $6.00.

Following the same pattern of excellence as its collateral "Review" publications, this volume surveys and abstracts a tremendous amount of literature. These reviews are designed for those who have a good background in the subject matter, and are especially useful to those engaged in teaching and research.

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Immunology—3rd Edition

Noble Pierce Sherwood, Ph.D., M.D., F.A.C.P., Professor of Bacteriology, University of Kansas. The C. V. Mosby Company, St. Louis. 1951. Illustrated. 731 pp. $8.00.

This volume, now the third edition, is used in many of the schools. The author states, in his preface, that he has attempted to utilize the criticisms of colleagues in revision of the work. There is a new chapter on Rh and the chapter on flocculation tests for diagnosing syphilis has been written by Frank Victor, Chief Serologist of the Kansas State Board of Health. All material has been brought up to date and the point of view stressed is that of the principles underlying infection, resistance, and the diagnostic tests.

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Wheeler and Jack's Handbook of Medicine—11th Edition

Revised by Robert Coope, M.D., B.Sc. F.R.C.P. The Williams and Wilkins Company, Baltimore. 1950. 648 pp. $5.00.

Although aimed at the student beginning his clinical clerkship, this little book can be scanned or read with profit by the student of medicine of nearly any age. The introductory remarks "To The Student Who Aims To Get Through 'Final' " may be highly recommended to the freshman. The general style of presentation will be useful to upper classmen because

of its brevity, clarity, and comprehensiveness. An excellent book for an over-all view of medicine.

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The Collected Papers of Adolph Meyer Volume II—Psychiatry

General Editor—Eunice E. Winters. With an introduction by Sir David K. Henderson, M.D., F.R.C.P., Professor of Phychiatry, University of Edinburgh. The Johns Hopkins Press, Baltimore. 1951. 674 pp., Illustrated and with Index. Four volume set, $30.00.

This book, Volume II of Dr. Meyer's Collected Papers, covers, by itself, a vast and intriguing field. The first half of the book is organized chronologically and geographically with the exception of the opening address. The psychiatrist's experiences in Scotland, Kankakee, Worcester, New York and Baltimore are documented by publications made during his residence in those areas. The remainder of the volume is devoted to papers produced in regard to specific problems of investigation or observation, covering most of the concepts in psychiatry as the author thought of them. It should be noted, that a very small number of the papers printed in this volume were written in German and are printed in the original.

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Pharmacognosy

The Study of Natural Drug Substances and Certain Allied Products. Robertson Pratt, Ph.D., Associate Professor of Pharmacognosy and Plant Physiology, University of California College of Pharmacy, and Heber W. Youngken Jr., Ph.D., Associate Professor and Chairman for Pharmacognosy, University of Washington College of Pharmacy. J. B. Lippincott Company, Philadelphia. 1951. 67 Illustrations, including 4 Plates in full color. 644 pp. with Appendix and Index. $8.50.

In the preface the authors state that they intended the book to serve as a student text in both didactic and laboratory courses. Admittedly, its function in laboratory courses would be mainly supplementary. Another aim of the authors was to provide a valuable reference work for practicing pharmacists. Beginning with a clear statement of the relation of pharmacognosy to the study of pharmacy and historical orientation, the authors proceed through the common source materials for drugs, classifying them into their pharmaceutical categories. Other chapters deal with therapy and use of drugs, and such technical aspects as determination of purity and quality. The writing is lucid, well suited for the avowed pedagogic purpose of the book.

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Clinical Parasitology—5th Edition

Charles Franklin Craig, M.D., Emeritus Professor of Tropical Medicine in the Tulane University of Louisiana, and Ernest Carroll Faust, Ph.D., The William Vincent Professor of Tropical Medicine and Public Health, The Tulane University of Louisiana; with a chapter on "Control of Medically Important Arthropods" by Albert Miller, Ph.D. Associate Professor of Parasitology (Medical Entomology), the Tulane University of Louisiana. Lea & Febiger, Philadelphia. 1951. 326 Engravings and 6 Colored Plates. 1032 pp. with Bibliography and Index. $12.00.

The 5th edition of this standard work has been enlarged by 161 pages. A new chapter on "The Epidemiology of Parasitic Infections" has been added, as well as Dr. Miller's chapter on "Control of Medically Important Arthropods." There are new illustrations, some of the older ones are revised, and a number of the distribution maps have been replaced with modern ones. Outstanding features of the book are the Technical Appendix and the extensive bibliography, both conveniently arranged at the back of the work. Each disease considered is treated as to its etiology, pathology, symptomatology, diagnosis, treatment and control. The work is a standard text for both undergraduate and graduate students.

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Handbook of Nutrition

Symposium prepared under the auspices of the Council on Foods and Nutrition of the American Medical Association. 2nd Edition. The Blakiston Company, New York, Philadelphia. 35 figures, 717 pp. $4.50.

World War II has provided material for study in this field, and many new experimental studies have been made. This second edition is overdue and will be welcomed by those interested in nutrition. Part 1 is devoted to the individual nutrients; Part 2 to nutritional and dietary needs; Part 3 to deficiencies; Part 4 to a general discussion of nutritional qualities of foods. A comprehensive coverage.

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A Syllabus of Laboratory Examinations in Clinical Diagnosis

Edited by Thomas Hale Ham, B.S., M.D., Assistant Professor of Medicine, Harvard Medical School; Associate Director, Thorndike Memorial Laboratory; Junior Visiting Physician, Boston City Hospital. Harvard University Press, Cambridge, Mass. 1950. 496 pp. $5.00.

Aimed to help the student bridge the gap between preclinical and clinical medicine, this manual tells the student how to make laboratory tests and why. It also includes a critical evaluation of the individual procedures under the title "Limitations and Interpretations." These are very well done. Two chapters are of special interest: "Current Cost of Laboratory Examinations" calls the student's attention to this important criterion for use of a test. It cites actual charges made to patients by four different hospitals. "Laboratory Data in

Clinical Medicine" is a very good discussion of the general nature of the use and limitations of laboratory tests in diagnosis of illness; the question of the nature of the accuracy and reliability of laboratory tests is well treated.

Evolution Emerging

William King Gregory. A collaborative work of the American Museum of Natural History and Columbia University. The Macmillan Company, New York. 1951. 2 volumes, 1749 pp. $20.00—boxed set.

A tremendously comprehensive and detailed work, some fifty years in the making, this two volume set traces the evolution of various species from "The First Living Things" (protozoa) to man. Volume I is text (736 pp.) and Volume II is devoted to line drawings, for the most part, more than 1000 pages. The text is written in an easy, lucid style. The main thesis is that the human skeleton, when studied in comparison with other types, yields adequate evidence of the origin of man from the lower forms.

Johannes Kepler: Life and Letters

Carola Baumgardt with an introduction by Albert Einstein. Philosophical Library, New York. 1951. 209 pp. Indexed. $3.75.

The principal feature of this pleasantly printed biography of the great astronomer's life is the care the author has taken to present us with a representative selection of letters from Kepler's productive period.

Begin Now . . . to Enjoy Tomorrow . . .

Ray Giles. Illustrated by Will Black. Published by The Mutual Benefit Life Insurance Company. Newark 1, New Jersey. 1951. 64 pp. Available by writing directly to the company.

A short, attractively printed volume designed to stimulate interest in annuity policies and retirement plans. Despite its obviously commercial antecedents, the book does manage to make the prospect of growing older appear much more attractive than it may actually be for a great number of people.

Master Your Mind
2nd Edition

Samuel Kahn, M.D., Ph.D. Rockport Press, Inc., New York. 1951. 262 pp. with Bibliography and Index.

Although a too hopeful title, the book does contain a large amount of useful information for younger students. Such chapters as "How to Use a Library," "Compiling a Bibliography," and the like, are helpful to pupils who have not had formal training in such subjects.

BOOKS AND PAMPHLETS RECEIVED:

As space permits, those with the greatest interest to our readers will be reviewed.

Human Physiology

Bernardo A. Houssay, M.D., Professor of Physiology, Director of the Institute of Biology and Experimental Medicine, Buenos Aires, and Associates, Translated by Juan T. Lewis, M.D., and Olive T. Lewis. Foreword by Herbert M. Evans, M.D. McGraw-Hill Book Company, Inc. New York. 1951. 1118 pp. $14.00.

Textbook of Physiology and Biochemistry

George H. Bell, M.D., Professor of Physiology, University of St. Andrews, J. Norman Davidson, M.D., D.Sc., Gardiner Professor of Physiological Chemistry, University of Glasgow, and Harold Scarborough, Ph.D., Professor of Medicine in the Welsh National School of Medicine, University of Wales. The Williams and Wilkins Company, Baltimore. 1950. 918 pp. $9.00.

A Text Book of X-ray Diagnosis
2nd Edition—Head and Neck—Vol. 1

Edited by S. Cochrane Shanks, M.D., F.R.C.P., F.F.R., and Peter Kerley, M.D., F.R.C.P., F.F.R., D.M.R.E. W. B. Saunders Company, Philadelphia and London. 1951. With 439 Illustrations. 434 pp. with Index. $12.00.

Principles and Practice of Obstetrics
10th Edition

Originally by Joseph B. DeLee, M.D., J. P. Greenhill, M.D., Professor of Gynecology, Cook County Graduate School of Medicine. W. B. Saunders Company, Philadelphia and London. 1951. 1140 Illustrations on 864 Figures, 194 in Color. 1020 pp. with Chapter Bibliographies and Index. $12.00.

Genetics in Ophthalmology

Arnold Sorsby, Research Professor in Ophthalmology, Royal College of Surgeons and Royal Eye Hospital; Surgeon, Royal Eye Hospital, London. Butterworth & Company (Publishers) Ltd., London, England. The C. V. Mosby Company, Saint Louis. 1951. Illustrations include color plates. 251 pp. with selected bibliographies, plus 14 pp. Index. $9.50.

Anatomy in Surgery

Philip Thorek, M.D., F.A.C.S., F.I.C.S., Assistant Clinical Professor of Surgery (For-

merly assigned to Gross and Topographic Anatomy), University of Illinois College of Medicine. J. B. Lippincott Company, Philadelphia. 1951. 720 Illustrations. 211 in Full Color, Drawn by Carl T. Linden, Instructor in Medical Illustration, University of Illinois College of Medicine. 970 pp. with Index. $22.50.

Hospitals—Integrated Design
2nd Edition

Isadore Rosenfeld. Progressive Architecture Library, Reinhold Publishing Corporation, 330 West 42nd Street, New York City. 1951. Over 500 plans and photographs. 398 pp., with 28 Tables, General Index and Index to Illustrations. $15.00.

Clinical Unipolar Electrocardiography

Bernard S. Lipman, A.B., M.D. and Edward Massie, A.B., M.D., F.A.C.P. The Year Book Publishers, Inc., 20 East Illinois Street, Chicago, Ill. 1951. 232 pp. with Index and Illustrations. $5.00.

Physiology of Heart and Circulation and its Clinical Application in Physical Medicine—A Symposium

Presented at the 27th annual conference of the American Physical Therapy Association. American Physical Therapy Association, 1790 Broadway, New York, 19, New York. 1950. 63 pp. Individual articles have Bibliographies. $1.00.

Clinical Heart Disease—4th Edition

Samuel A. Levine, M.D., F.A.C.P., Clinical Professor of Medicine, Harvard Medical School; Physician, Peter Bent Brigham Hospital, Boston; Consultant Cardiologist, Newton-Wellesley Hospital; Physician, N. E. Baptist Hospital. W. B. Saunders Company, Philadelphia and London. 1951. 192 Figures. 556 pp. with Index. $7.75.

When Mental Illness Strikes Your Family

Kathleen Doyle, with an introduction by Karl M. Bowman, M.D., Medical Superintendent, Langley Porter Clinic. Public Affairs Committee, 22 East 38th Street, New York City. 32 pp. $.20.

Blood—Your Gift of Life

Alton L. Blakeslee. The Public Affairs Committee, New York City. 32 pp. with Bibliography. $.20.

Biochemical Institute Studies IV

Individual Metabolic Patterns and Human Disease: An Exploratory Study Utilizing Predominantly Paper Chromatographic Methods.

From the Biochemical Institute and the Department of Chemistry, The University of Texas and the Clayton Foundation for Research, Austin. 1951. 205 pp. with Charts and Tables. $1.00. Bona fide investigators may receive copies gratis by applying to the Biochemical Institute, University of Texas, Austin 12, Texas.

Lea & Febiger Books

Grollman—Pharmacology and Therapeutics

A Textbook for Students and Practitioners of Medicine

By ARTHUR GROLLMAN, Ph.D., M.D., F.A.C.P.

Professor of Pharmacology and Chairman of the Departments of Physiology and Pharmacology, Southwestern Medical School, University of Texas

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Boyd—The Pathology of Internal Diseases

By WILLIAM BOYD, M.D., M.R.C.P., F.R.C.P.

Professor of Pathology and Bacteriology in the University of Toronto, Canada

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Wiggers—Physiology in Health and Disease

By CARL J. WIGGERS, M.D., D.Sc., F.A.C.P.

Professor of Physiology and Director of Physiology Department, School of Medicine, Western Reserve University, Cleveland, Ohio.

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OPHTHALMOLOGY:	DIAGNOSTIC EXAMINATION OF THE EYE, Berens and Zuckerman. SURGERY OF CATARACT, Kirby.
ORTHOPEDICS:	SURGICAL TREATMENT OF THE MOTOR-SKELETAL SYSTEM, Bancroft and Marble. FRACTURES, Magnuson and Stack. TUMORS OF BONE, Geschickter and Copeland. SURGERY OF THE SHOULDER, De Palma. SURGERY OF THE HAND, Bunnell.
PATHOLOGY:	HUMAN PATHOLOGY, Karsner. IDENTIFICATION OF TUMORS, Foot. TUMORS OF BONE, Geschickter and Copeland. COLOR ATLAS OF PATHOLOGY, U. S. Naval Medical School.
PROCTOLOGY:	ANUS-RECTUM-SIGMOID COLON, Bacon.
SURGERY:	MODERN SURGICAL TECHNIC, M. Thorek. ANATOMY IN SURGERY, P. Thorek. PATHOLOGY IN SURGERY, Foot. SKIN GRAFTING, Brown & McDowell.
UROLOGY:	THE PRACTICE OF UROLOGY, Rolnick.

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